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ABSTRACT

The purposes of this study were to design a model for promoting and guiding the development of a systematic approach to coordinating program planning in vocational education between the Eastern Campus of Cuyahoga Community College (Ohio) and its feeder high schools; to identify problem areas in articulation and achieve a consensus on priority items; to demonstrate the utilization of local resources rather than outside groups; and to demonstrate the leadership role of the community college in the articulation process. The model consisted of a six-step process: (1) building inter-institutional relationships; (2) diagnosis (identifying problems, generating solutions, formulating objectives); (3) gaining acceptance; (4) identifying constraints and needed resources; (5) evaluation; and (6) diffusion of the model. The diagnostic process was the focal point of the model. The Nominal Group Process was utilized as a problem-solving strategy in a workshop situation involving counselors, instructors, and administrators from the secondary and community college levels. Articulation problems were identified and objectives established. Endorsement of the articulation objectives by secondary school superintendents and the college president culminated the acceptance phase. Conclusions indicated the model was workable and achieved expected outcomes. (JDS)

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A PROPOSED MODEL FOR IMPROVING ARTICULATION IN VOCATIONAL EDUCATION BETWEEN SECONDARY SCHOOLS AND COMMUNITY COLLEGES

U.S. DEPARTMENT OF HEALTH,
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by
Eugene W. Malone

A MAJOR APPLIED RESEARCH PROJECT PRESENTED IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF EDUCATION

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1976

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Dr. Mantha Vlahos
Central Staff Committee Member

A PROPOSED MODEL FOR IMPROVING ARTICULATION IN VOCATIONAL EDUCATION BETWEEN SECONDARY SCHOOLS AND COMMUNITY COLLEGES

Eugene W. Malone

ABSTRACT

This study was based on the premise that the American educational system tends to be a mere assemblage of several different levels of learning with little linkage to a total coherent system. For example, the literature review indicates that secondary schools, community colleges, and four-year colleges usually develop their courses and programs independent of one another with very little coordination among the three levels. These conditions adversely affect articulation.

This practice is even more obvious and pronounced in vocational education planning. Often this planning occurs with the attitude that vocational education is terminal and once the program ends, the student's need for further education ceases upon job entry. Fortunately, this attitude toward vocational education is slowly changing and the concept of lifelong learning is replacing the old attitude. Unfortunately, however, this requires a new look at planning processes at the various levels between educational institu-

tions so that the students will be able to move horizontally and vertically on career ladders and within career clusters. Therefore, the challenge to the community college as middleman in higher education is to take the leadership in bringing about this articulation which is so vital for the future of our country.

The primary purpose of this study was to design a model for promoting and guiding the development of coordination between the Eastern Campus of Cuyahoga Community College, Cleveland Ohio, and its feeder high schools. The secondary purpose of this study was to conduct a formative evaluation according to the following objectives: (1) to identify the problem areas in articulation and achieve a consensus on the priority items; (2) to demonstrate the utilization of resources within the system rather than outside groups; (3) to gain official acceptance of a proposed plan for improving articultion as an outcome of this study; and (4) to demonstrate the leadership role of the community college in the articulation process.

A careful review was conducted to identify the change strategies most commonly utilized in the innovative process. The search resulted in the identification of the following four basic models: (1) Problem-Solving, (2) Social Interaction, (3) Research, Development, and Diffusion, and (4) the Linkage Model. For purposes of the study, the Problem-

Solving Strategy was thought to be most appropriate because it provided the opportunity for a participatory process by the two educational levels utilizing inside resources.

The articulation model which emerged from this study consisted of a six-step process which included: I. Building a Relationship, II. Diagnosis, III. Gaining Acceptance, IV. Constraints and Resources, V. Evaluation, and VI. Diffusion. The diagnostic step involved a workshop utilizing the Nominal Group Process to generate ideas and formulate objectives. The workshop participants included counselors, instructors, and administrators from the two educational levels. A pre and post opinionnaire and a workshop evaluation was administered to the participants. The data was treated by using simple percentages and mean scores.

The ultimate beneficiaries of improved coordination between the secondary school and the community college are the students, the educational institutions, and the American society. The students benefit when coordinated course and program planning eliminate duplications and provides for advanced placement provisions; the schools benefit when they are able to maximize the utilization of their resources by sharing facilities and personnel; and the society benefits from more highly trained individuals to meet the community's manpower needs.

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CHAPTER I

AN INTRODUCTION TO THE STUDY

The American educational system is basically an imported innovation with influences from the German kindergarten, the Prussian elementary school, the American built junior and senior high school, the English college, and finally, the German graduate school (Russell and Judd, 1940). Add to this system the junior-community college and its multi-dimensional curriculum of transfer and technical programs and this completes the assemblage of the American school system. However, Stone (1969) suggests that:

> The resultant assemblage of schools is not necessarily a system of education; to the multiplicity of considerations essential to producing educational units must be added the increasingly significant problem of their articulation (p. 86).

Unfortunately, these American educational levels were developed independently of one another without regard for the overall continuity of the human learning process; this is probably the most difficult single problem currently facing education in America today.

This problem of poor articulation between educational levels has produced duplication of subject matter resulting in both wasted student effort and institutional personnel and resources. For many students, this stratification of levels from elementary to junior high--to senior high--to college is much too complicated a task; students become disillusioned and many eventually leave the system.

According to Romine (1961) the only common element persisting throughout this fragmented educational structure is the "learner". Halstead (1974) accuses the system of reneging on its responsibility to provide for a smooth transition from secondary to higher education by shifting this responsibility almost entirely to the individual student. He further states that very few efforts have been made by the two systems involved, the high school and the college, to act together to make the student's education an organic whole.

Earlier studies of the problem of articulation dealt mainly with the movement of students between two and four-year institutions. However, more recently serious attention has been given to improving articulation between vocational high schools and the two-year colleges. Articulation studies by Reynolds (1969), Medsker and Tillery (1971) first called attention to the problems existing between these two types of institutions.

Part of the problem stems from the 1960's when confusion surrounded the community college as to whether it was to identify more closely with higher education as opposed to the secondary system. This was evidenced by the fact that community colleges "developed separate curricula without specifically taking note of the preparation of students coming from the high schools" (Opachinch and Linksz, 1974, p. 2). Yet, Smith, E. (1972) reports that many students who take vocational education courses in high school are required to take some of the same training at the college level. This is not only unfair to the student, but also results in the waste of school resources and tax payer's dollars.

This is particularly true when it comes to planning and developing the career programs at the two levels. According to Bender (1974) the community college has been negligent in its response to the vocational high school graduate and "it is time for community colleges to look in the mirror and examine the image thus reflected" (p. 22). He proposes that the community college engage in some of the same discriminatory practices toward the vocational high school student that it decries when its technical program graduates attempt to enroll in four-year institutions.

Kintzer (1973) also accuses the community college of being negligent in its role as a receiving institution by devoting far too much of the college's resources to prepare students for senior colleges while "the importance of communication with high schools is slighted or completely overlooked and remains generally unreported" (p. 17). He further contends that "the community college should expect no better treatment from universities than it is willing to extend to high schools" (p. 1).

Wattenbarger (1972) feels that both the high school and the community college faculties have an excellent opportunity to assure that the student's educational development is continuous and uninterrupted through a coordinated effort. He also joins with others in declaring that the community college should assume the leadership role in bringing about this joint venture. However, Reynolds (1969) suspects that attempts to improve articulation between the secondary school and the community college technical program development is likely to "evoke little or no interest" on the part of most community college faculty (pp. 148-149).

Yet, the benefits of a sound articulation program in technical education are far reaching and Opachinch and Linksz's (1974) study cites the beneficiaries to be the students, the schools, and society:

> Students are the most important beneficiaries; those who have taken high school programs in a similar technical specialty are not penalized by having to retake courses and are encouraged to prepare themselves for higher order jobs. The schools also benefit; they can maximize the use of their personnel, facilities, and equipment, thereby having available resources to devote to other pressing problems. Society benefits, too; aside from the more effective use of resources, there is the more thorough training of skilled manpower (pp. 10-11).

Therefore, according to Linson (1971) the primary objectives for achieving articulation between vocational programs in secondary, and postsecondary institutions are:

1. Making all segments of vocational education work together to advance the vocational objectives of the student.
2. Eliminating duplications.
3. Expanding students' opportunities. As a student advances from one level to another, he should advance for a higher or more specific level of training.
4. Making related training more effective.
5. Giving the vocational student a better opportunity to obtain a balanced education by taking courses not vocationally related, but which are meaningful to him.
6. Make all levels and all aspects of his education more relevant.
7. Enabling the individual student to develop and pursue a long range career plan.
8. Improving the quality of vocational education.
9. Making vocational education more efficient and more economical (p. 30).

NEED FOR THIS STUDY

Cuyahoga Community College, located in Cleveland, became Ohio's first community college in 1963 and recorded the "largest initial enrollment in the history of the junior college movement" with more than 3,000 full and part-time students (Chapman, 1969, p. 116). This was made possible through final passage of a controversial bill in 1961 which had previously been vetoed by the Governor in 1958.

Since that eventful day in 1963, the Cuyahoga Community College District has expanded to three campuses with nearly 30,000 students enrolled in some 50 technical programs and hundreds of liberal arts and continuing education courses. As a result, Cuyahoga Community College is the third largest college in Ohio. About 69 percent of the credit students are enrolled in the technical programs with 31 percent attending classes in the university parallel and general studies programs (Cuyahoga Community College Report, 1974-75).

In addition to providing a vast array of educational offerings, the College is ever mindful of its obligation to remain economically accessible by maintaining the lowest college tuition fees in the state.

Like other "open-door" institutions, Cuyahoga Community College sees as its primary role the serving of individuals of all ages. This includes traditional students as well as the non-traditional. The leadership of the College is also aware of its responsibility to keep abreast of the changing needs of society. The problems of inflation and unemployment have tremendous implications for future program planning and one area requiring immediate attention involves the career program planning process. Of particular concern to the College today is the need for coordination among the many groups involved in providing vocational/occupational training.

Cuyahoga Community College is currently undergoing an updating of a Master Plan. Specific attention is devoted to concern for review and coordination of career program planning with other schools and institutions in and around Cuyahoga County. The planning document specifically identifies three types of institutions involved in program planning outside the College: (1) the secondary school systems; (2) proprietary schools and (3) other institutions of higher education. This Plan emphasizes the importance of cooperative efforts between the College and local secondary schools to "avoid unnecessary duplication and to improve means of coordination and articulation...with the local secondary schools for purposes of career program planning and development..." (C.C.C. Master Plan Update, 1975, pp. 77-88). The Plan also identified the secondary school vocational planning districts within the county with course offerings similar to Cuyahoga Community College. The areas include: business, office education, health, public service, and engineering. Although there was no evidence of an "undue competitive" situation existing between the College and the secondary schools at present, it was felt, nonetheless, that the College should step up its efforts to establish a closer liaison relationship for current and future career program planning (p. 78).

At the present time, it would have to be assumed that each type of institution is operating independently of the other since the two systems are governed by two separate state agencies: The Ohio Board of Regents governs the community college and the State Department of Education governs the secondary schools. According to Bender (1974), where different state agencies are in command of secondary and postsecondary career program development, the results are:

> That many students in secondary occupational programs are not the beneficiaries of a coordinated, synchronized educational experience between secondary and postsecondary levels (p. 23).

Therefore, the problem of inadequate career program-planning and articulation between the two systems continue to operate unabated.

Yet, this is not intended to infer that the interest to bring about articulation among these institutions is absent. On the contrary, Dr. Max Lerner, Vice-Chancellor for Two-Year Campuses of the Ohio Board of Regents, in a recent communication expressed a deep sensitivity for the problems of articulation between Ohio's two-year campuses and the vocational schools. He not only recommended a closer relationship between the two institutions, but also raised the question of advanced placement with serious concern for duplication of learning. In essence, Dr. Lerner challenged the two-year college to evaluate its philosophy regarding the problems of articulation between these two types of educational institutions so that the students are not boxed into a two-year plan just because the college program is designed for two years. He suggests that the student should have the opportunity to move at his own rate of growth once accomplishing the objectives of the program. (See Appendix A for correspondence with Dr. Lerner).

Lerner also makes reference to the 1975 report by the Ohio Board of Regents entitled, "The Two-Year College System in Ohio: A Planning Report", which briefly addresses the need for improving articulation between the high schools and the two-year campuses with particular concern for the vocational high school programs. The Regents' noted that:

> Additional attention needs to be devoted to better articulation between two-year campuses and high schools, with particular attention given to articulation between vocational high school programs and two-year campus technical offerings. Undoubtedly, student needs can be met better and physical facilities be made more available, through articulation and cooperation (p.22).

A drawback to this cooperative planning effort in the past has been the misconception by most institutions that vocational education was to be treated as terminal. However, today this attitude is contrary to the notion that students should be able to rise to the highest level of their competency in career families or clusters through a smooth and continuous process.

Kintzer (1972) addressing the problem of articulation in an article entitled, "From High School to Community College - A Vital Link in the Articulation Process", suggested that the two most essential elements for success are team process and attitude. He referred to this process as "a series of complex interlocking formal relationship between schools" which requires the opening of lines of communication between the decision makers of the high school and community college, and an awareness of the contribution each institution's program can make to the other (p. 3).

Edmund Gleazer (1974), president of the American Association of Community and Junior Colleges, pointed out that there is an:

> Obvious need for students to have an educational continuum that minimizes the difficulty of moving from secondary to postsecondary institutions...and community and junior colleges serving as a bridge from secondary schools to a variety of postsecondary education, are in an excellent position to make a contribution to continuity (p. 3).

These views are clearly in harmony with the future direction in which Cuyahoga Community College is moving regarding the necessity for providing lifelong learning experiences in our changing society. Thus, a study to improve articulation with the local high school vocational education programs is very timely. Therefore, the preceding factors, plus the documentation presented in the literature review, make it a most propitious moment for further study to demonstrate the need for improving program coordination between these two vital educational links in the American system.

PROBLEM

Statement of the Problem

It was determined from existing information that there was a need to develop a method for logical, systematic, long-range program planning in vocational education between the secondary schools and the community college in Cuyahoga County. The complexity of interrelationships among programs and the uncertainties that exist as to the probable outcome of allocations of programs and resources have frustrated much of the development efforts of the past and present.

Therefore, the primary purpose of this study was to design an articulation model for promoting and guiding the systematic development of coordination between the Eastern Campus of Cuyahoga Community College and its feeder secondary schools. It was also the purpose of this study to conduct a formative evaluation to determine the effectiveness of the model according to the following objectives: (1) to identify the problem areas in articulation and achieve a consensus on the priority items; (2) to demonstrate the utilization of resources within the system rather than outside groups; (3) to gain official acceptance of a proposed plan for improving articulation as an outcome of this study; and (4) to demonstrate the leadership role of the community college in the articulation process.

ASSUMPTIONS OF THE STUDY

While the efforts to maintain close relationship with the local high schools has always been an objective of the College, the context in which this study is couched represents a much broader view of articulation with high school vocational education programs than presently exists. Therefore, the writer made the following assumptions:

1. That articulation between Cuyahoga Community College and the local secondary schools offering vocational programs probably needs strengthening because there appears to be duplication and lack of coordination between the two institutions.
2. That minimal opportunity for high school/community college counterparts to engage in constructive program continuity currently exists.
3. That the review of articulation programs operating in other communities will have significance for the development of a program at Cuyahoga Community College.
4. That the two types of institutions involved will be cooperative and willing to participate in this project.

5. That a need exists for joint career program planning between the high school and the community college to provide vertical continuity along career ladders to high school graduates.
6. That high school vocational education graduates generally view their educational experience as terminal but would be interested in college occupational programs if they were able to see a relationship between the high school and college training.

DEFINITION OF TERMS

For purposes of this study, terms are defined as follows:

Articulation. The multi-dimensional process of dovetailing institutional operations and responsibilities to enhance progression of students in curriculum areas from one level (high school), to another (community college), and maximize resources. Articulation must be an on-going process which may be carried out in concert with initial program planning but also after programs are already operational (Opachinch and Linksz, 1974).

Counterparts. Individuals holding similar positions at different educational levels such as counselors at high schools and community colleges or instructors of specific occupational subjects at the two levels.

Feeder High Schools. The high schools in Cuyahoga County have been divided among the three campuses of the Cuyahoga Community College District for the purpose of maintaining continuity in recruitment practices. However, all recruitment is carried out with the total College program as opposed to individual campus recruitment.

Horizontal Articulation. Movement between schools and school systems.

Occuptional Education Programs. Refers to any and all education and training aimed at preparation for employment, as distinguished from curriculums in the liberal arts, the fine arts, or the humanities.

Vertical continuity. Program and course coordination between grade levels and educational levels.

Vocational Education Programs. Vocational education is a generic term for all programs where the major goal is to attain gainful employment after a course of study requiring no longer than two years for completion...At various times "vocational", "occupational", and "technical-vocational" have been used to distinguish this function from "transfer" and "general" education (Cohen, 1971). However, for purposes of this study, the terms are interchangeable and used to describe both high school and college career programs.

LIMITATIONS OF THE STUDY

The limitations of this study are enumerated in the statements that follow:

1. This study is limited by the fact that separate state agencies are responsible for coordinating secondary and postsecondary education in the state of Ohio. Bender (1973) reported that where the two levels are under the same state agency, articulation is more likely to receive state support. Therefore, this study is limited to Cuyahoga County and is not intended to engage in the investigation of a state-wide plan. However, the results of this study could have broad implications for developing articulation programs both on a state-wide or national level.
2. This study is further limited due to the scarcity of publications and research studies dealing specifically with articulation between secondary and postsecondary vocational/occupation programs. Moore (1973) also noted that the subject of articulation between the secondary and the community college was grossly neglected in the literature.

DELIMITATIONS OF THE STUDY

The delimitations of this study are presented in the statements below:

1. The study is delimited to the investigation, development, and evaluation of a process to improve articulation between the secondary schools and Cuyahoga Community College and does not include other county educational institutions offering vocational training. Therefore, the results will not be representative of all vocational training programs in Cuyahoga County.
2. Finally, this study is delimited to the investigation and design of a model for improving articulation between vocational education programs at the high school and community college level, limiting the participants to staff members of the Eastern Campus of Cuyahoga Community College and counterparts from Eastern's feeder secondary schools.

SUMMARY

The major struggle between community colleges and four-year institutions to bring about smooth transition for two-year college graduates occurred during the sixties and early seventies with a recognizable degree of success. Today, community college graduates are generally awarded junior status upon graduation from two-year institutions. However, the community college has not extended this same courtesy to the secondary vocational education student by providing a smooth transition from the high school to the entry level courses in the community college. This often subjects the student to repeated experiences causing duplication of effort and wasted resources. Therefore, the primary purpose of this study was to develop a model for improving articulation of vocational education program planning between secondary schools and community colleges and conduct a formative evaluation according to the following objectives: (1) to identify the problem areas in articulation and achieve a consensus on the priority items; (2) to demonstrate the utilization of resources within the system rather than outside groups; (3) to gain official acceptance of a proposed plan for improving articulation as an outcome of this study; and (4) to demonstrate the leadership role of the community college in the articulation process.

The remaining chapters of this study are organized in the following way:

Chapter II consists of a brief presentation of the development of the community college, the state of articulation between the colleges and secondary schools; a discussion of the impact of the National Vocational Education Acts upon the two educational levels; some examples of articulation between secondary vocational education and the community college education programs; and finally, a general review of the strategies used to effect systematic change and innovation.

Chapter III presents a description of the articulation model and the procedures followed in its development.

Chapter IV provides an analysis of the testing process and discussion of the findings.

Chapter V is primarily devoted to a summary of the results with conclusions and recommendations for future usage of the findings of this study.

CHAPTER II

SURVEY OF RELATED LITERATURE

Introduction

The two-year college has made a phenomenal impact upon the educational development of the American society with its "open-door" philosophy. Its comprehensive curriculum and broad appeal to a diversified student population has been the trademark of the community college within the last decade. However, while the community college was gaining its foothold in the educational scheme of things, the comprehensive high school movement was developing simultaneously to meet the changing demands of an industrialized society. Also developing closely on the heels of these two institutions came area vocational schools prompted by the Vocational Education Act of 1963.

Unfortunately, instead of bringing these educational units closer together, the federal incentive programs created a greater separation at the expense of continuity of educational opportunity. However, even before the federal funds were made available under this new legislation, many community colleges had already renounced their secondary school heritage and were vigorously pursuing separate identities. Although this freed secondary schools from collegiate dominance and led to the evolution of comprehensive high schools offering wide varieties of programs, it also caused some serious questions to be raised concerning vocational program planning. These questions are: Which educational level should offer which programs? How much duplication should exist and who should decide? Without a doubt, these are very complex issues and probably require discussion at local, state, and national levels before full resolution will be accomplished. While all involved would probably agree that the task of developing articulation between the community college and secondary vocational education programs is much more difficult without the involvement of all three levels of support, nonetheless, it appears advisable to begin at the local level. Linksz (1971) and others writing on articulation between these two institutions suggests that the critical elements in this process are the local institutions themselves which must establish an effective coordinated relationship before others will occur.

Also, all indications from the literature suggest that the timing is right and that the community college should assume leadership and initiative in bringing this cooperative effort about. Therefore, this review reflects upon the emergence of the community college and its subsequent role in the articulation process as a continuum from the secondary school through the four-year college.

THE COMMUNITY-JUNIOR COLLEGE

The notion to extend higher educational opportunities beyond the intellectual elite was conceived before the Civil War and became the law of the land in 1862 through the Morril Act which established the land grant colleges. Prior to the land grant college, higher education was designed to serve the well-to-do; this Act opened the way for land grant colleges to offer agricultural and technical training for many young Americans who would not of otherwise had the opportunity to continue their education beyond high school (Smith, K., 1970). The land grant college was the first higher educational institution in this country to reflect the "developing American democracy" (Pullias, 1975, p. 47).

However, as early as 1850, a movement was underway by university presidents from Michigan, Illinois, Minnesota, and Chicago to relegate the first two years of the university to high school status. Leader among the group was University of Michigan president, Henry P. Tappan. Tappan's hope was to pattern the American system after the research-oriented German university structure which had become famous around the world. The German system promoted the concept that the earliest college preparatory years should be separate from the university and students seeking less than "professional-level careers were expected to go elsewhere" (Monroe, 1972, p. 7).

These early attempts by Tappan and others failed and not until William Rainey Harper, president of the University of Chicago, created the academic college in 1892, did the concept of the lower division become a reality. The academic college was later renamed the junior college in 1896. Harper envisioned the junior college as an opportunity for students who were not prepared to attend a four-year college but who could benefit from enrolling in two years of post high school work. He also recommended three possible ways to create these junior colleges:

> Weak four-year colleges could be reduced to junior colleges. Two years of work could be added to the high schools. And new junior colleges could serve as feeders to the universities as they dropped lower division programs of study (Monroe, 1972, p. 9).

The movement to redirect lesser prepared students away from the university expanded to California where university leaders encouraged passage of state legislation permitting the high school to offer the thirteenth and fourteenth years.

Alexis Lange of the University of California is credited with giving early impetus to the belief that the junior college should be responsible for fulfilling the goals of universal education (Brick, 1964, pp. 22-23).

This trend soon extended from coast to coast; between 1900 and 1920, the junior college movement found its way into the American system of education. By 1922, some 200 public and private two-year institutions had been formed to offer new educational opportunities in California, Illinois, Michigan, Minnesota, Kansas, Iowa, Missouri, Texas, Oklahoma, Mississippi, and New York.

Koss (1924) viewed the junior college as providing three basic functions--transfer, vocational education, and community services; these functions are as much a part of the college today as they were fifty years ago.

The literature is scant as to exactly when the community college actually emerged from this two-year movement but it is suspected that concern for less prepared high school graduates by parents, citizens, and school members led to this unique addition to higher education. The advocates of this new institution saw as its mission "a low cost, tuition-free, broad-and-flexible-curriculum type of college education for the majority of youth" (Monroe, 1972, p. 15). The concept of the open-door regardless of race, religion, or economic background took on a true meaning following the findings of President Truman's Commission on Higher Education. The Commission's strongest recommendation was to extend postsecondary educational opportunities two years beyond the high school to the masses through community colleges (President's Commission on Higher Education, 1947).

The community college concept really became the focal point of higher education in the sixties as it promised to be many things to many people. Often referred to as the "peoples college" because of a philosophy to become a truly "open-door" institution, community colleges experienced a phenomenal growth rate of over five hundred new institutions emerging during the decade (Gleazer, 1974). Cosand (1968) predicted that by 1980, enrollments would represent about three-fourths of all undergraduates in higher education which suggests that approximately three million students will enroll in nearly 1,200 two-year colleges. To fulfill this mission, the Carnegie Commission's study on higher education recommended that the country strive to provide a comprehensive community college within commuting distance of every potential student by 1980 (Carnegie Commission on Higher Education, 1970).

However, this evolutionary movement from the secondary school system through the junior-college era to its present open-door position has not been a totally smooth progression. There have been strong critics challenging the egalitarian theory of education and the community college's role in fulfilling it. This has added to the confusion experienced by community college personnel in their search for a true identity. Grable's (1971) interesting account of the community college's effort to establish an independent identity is cogently stated in the following quote:

> It is not entirely surprising that the junior

> college sought to cast itself adrift from the high school and began to search for an independent identity. This search generally led toward a greater-identification with college and university-higher education and many junior colleges introduced status forms common on university campuses into their own organizations.
>
> Rejected in many of its attempts to identify with the university and unwilling to assume the role of a "glorified high school", the junior college thus found itself relegated to a sort of "educational no-mans land". Recognized as neither secondary nor higher education, it was forced to begin a search for institutional identity - a search which incidentally, continues to this day (p. 196).

Gleazer (1973) has been very critical of the community college's close alignment with the university and accuses it of standing in the shadow of the senior institution thereby lacking inventiveness and initiative. He suggests that by identifying closely with the university, the community college continues to promote a traditional system which hinders the opportunity for fresh ideas and creativity. It is also pointed out that services are generally delivered:

> In the conventional academic packages with courses, credits, examinations, grades, degrees, commencements, campuses, classrooms, day and evening programs. In the phrase "community college", the accent too often has been on the word "college" (Gleazer, 1974, p. 7).

These views are similar to those of Duval (1968), Jencks and Riesman (1968) who see the community college as purporting to be a new concept in higher education while at the same time duplicating the four-year college curricula with faculty often viewing themselves like traditional university professors.

Medsker's (1960) study of junior-community college faculty points out how the faculty resented being identified as secondary school teachers while preferring the title of college professor. Yet, four-year college faculty have not recognized the two-year college faculty as equals. Maul (1965) also found that 30 percent of the new two-year faculties were former high school teachers, 24 percent were hired directly from graduate schools, and very few had an understanding of open admissions or community services.

Out of this struggle by community college faculty to gain an identity developed the dual tracks which led to (1) the transfer curriculum and (2) the technical curriculum which was viewed as terminal without transfer acceptability, thereby, automatically establishing barriers within the system. The technical program faculty usually found themselves low-man-on-the-totem-pole while the academically-oriented faculty gained prestige by identifying with the transfer programs, thus providing them with a link to the four-year institutions. The technical program faculty are usually placed below the academic faculty on the salary scale because their training is not recognized as equivalent to the formal degrees held by the academic faculty (Monroe, 1972).

Garrison (1967) takes the position that the community-junior college faculty is just beginning to emerge as a professional in higher education because:

> Few individuals consciously prepare for teaching at this level, many arrive at the two-year college as the result of what they view as a promotion from the secondary school or as an interlude between completion of the master's degree and progression toward further education that will bring with it the coveted status of professorship at the four-year college level (p. 18).

However, the Newman Report called the two-year college movement, "The most striking structural development in higher education today..." but it also indicated that community colleges are already acting like kid brothers of four-year institutions and have been converted to junior colleges in the opinion of the public (Report on Higher Education, 1971, p. 57).

This report suggests that the two track system fails to prepare the student for what is ahead. The university parallel track, which basically prepares certain students for later transfer to the four-year institution, is clearly the dominate one, yet, only one student out of three actually transfer (Gleazer, 1973, p. 46).

The other track leads to technical training for entry into the world of work upon completion of the degree. However, until recently, technical programs have been viewed as "convenient 'dumping grounds' for less able and non-motivated drifters" (Monroe, 1972, p. 95). These programs have lacked the provision for further development along a career ladder without starting over again at the bachelor's level. Yet, studies comparing ability levels between academic and occupational program students by Medsker (1960) and Clark (1960) concluded that there was very little differences between them, hopefully dispelling the notion that occupational students are incapable of further education.

Perhaps it is this dualistic system of the "academic" versus the "technical" program which does the most harm to the community college's image of itself. Brown (1974) would like to see the walls between these two curriculums tumble down in order to adopt a new perception of higher education. He contends that removal of these walls:

> Is essential to a new perception of postsecondary-education, a perception that is unifying rather than divisive, integrated rather than segregated, and inclusive rather than exclusive (p. 7).

Brown feels that the college should begin by abolishing the labels used to identify students as "technical" or "college transfer" which established a hierarchy within the institution and has led many to interpret one as being better than the other (p. 8).

While O'Banion (1972) recognizes the seriousness of these criticisms, he nevertheless tosses the challenge of resolution back to the community college by suggesting that the "identity crisis of the community-junior college stems from unclear priorities rather than from any lack of distinguishing characteristics". He feels that the proponents of the community college movement are in general agreement as to the characteristics which best describe the direction it must take in the seventies. These distinguishing characteristics are: (1) open-door admission policies; (2) comprehensiveness; (3) community orientation; (4) emphasis on teaching; (5) student centeredness; and (6) innovation.

Goodlad, cited in Grable (1971), concurs with O'Banion that although the community college was an outgrowth of the secondary school system, it must be able to establish its own identity, which is neither high school nor college but an institution created to provide educational opportunities to a new clientele representing a very diverse student population. According to Goodlad, the community college cannot be merely an extension of the high school nor the beginning of the four-year college but it "should be countercyclical to what it follows and countercyclical to what it precedes" (p. 197).

THE STATUS OF ARTICULATION

The community-junior college has made enormous strides in its efforts to prepare students for transfer to four-year colleges and universities. Studies in the sixties by Wattenbarger (1966), Knoell and Medsker (1965), resulted in focusing attention on the needs of the two-year college transfer student and set the stage for national conferences to establish workable guidelines to assist in this transition from two-year to four-year colleges.

However, Monroe (1972) reported that prior to 1950, "scarcely any formal arrangements existed for facilitating articulation between the community colleges and the senior institutions" (p. 64). But, by 1970, Kintzer (1973) noted that the situation was changing and many states had adopted articulation agreements to facilitate the movement of students from two-year to four-year institutions. The first of such agreements was developed and implemented in Florida in 1965. A new agreement reaffirming the earlier one was approved by the State Board of Education in 1971 which established an official articulation coordinating committee. This agreement was:

> Based on the understanding that the transfer should be accomplished without roadblocks and that institutional integrity is of crucial importance. Education is recognized as a continuous process in separate administrative units (p. 36).

Kintzer's study of articulation in fifty states identified three basic models governing transfer between two-year and four-year colleges which are: (1) formal and legal policies, (2) state system policy, and (3) voluntary agreement. Several states have formal plans but Illinois adopted the only legal plan which was enacted into law by the legislature in 1965.

The latest information on articulation suggests that approximately half the states have adopted some guideline for aiding transferring students from two-year colleges whereas the others have either resolved the problem with temporary measures on an individual basis, or avoided the issue because the demand for action has not reached an emergency situation (p. 107).

A committee studying articulation between two-year and four-year colleges in the state of Connecticut identified three principles which approach the problem from a competency based concept as opposed to a course by course method. The three principles are:

> 1. Continuity - Transfer policies should enhance the opportunity for smooth transition from one educational level to the next in programs which may appropriately involve more than one institution.
>
> 2. Equity - The assignment of transfer credit and the determination of academic standing should be equitable.
>
> 3. Efficiency - Transfer policies should foster productive use of student time and institutional resources by discouraging unnecessary interruptions and repetitions in a student's program (Wattenbarger and Medford, 1974, p. 28).

SECONDARY SCHOOL-COMMUNITY COLLEGE ARTICULATION

The literature in the past suggested that community colleges concentrated on developing articulation programs for students transferring to four-year colleges while devoting very little attention to students transferring from secondary schools to community colleges. However, Kintzer's (1972) reference to the community college as the middleman in higher education offers community colleges an excellent opportunity to assume a special leadership role in the articulation process. This role requires a "willingness to compromise extreme positions and to tolerate the views of others if transfer relationships between high schools and community colleges are to succeed" (p. 1).

Gillie (1970) sees the future of the community college as serving as the bridge from the secondary schools to (1) the world of work and (2) the third year of the four-year college or university. His concept is depicted in Figure 1.

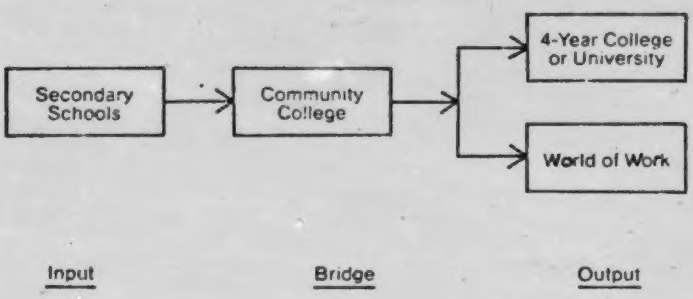


Figure 1.

The community college as a bridge institution.

Adapted from Essays on Occupational Education in the Two-Year College. (Pennsylvania: Pennsylvania State University, Department of Vocational Education, 1970, p. 4).

Wattenbarger (1972) insists that the leadership for these programs must come from community colleges, but Kintzer (1972) contends that it should be a shared responsibility. The importance of developing a closer relationship between secondary schools and colleges was also expressed by the Carnegie Commission in its publication entitled, Continuity and Discontinuity. The report, published in 1973, urged that "schools and colleges once again view themselves as parts of the same continued process that is larger than either of them or both of them combined" (p. 3).

However, the greatest preventor of a closer articulation between the community college and the high school in the past was probably the:

> Mutual distrust and misunderstanding regarding the role, scope, and purposes of each, with few efforts being made to coordinate programs between the two (Grable, 1971, p. 197).

The community-junior college, in its zeal to be recognized as a full-fledged member of higher education, has been accused of "turning its back upon the secondary schools" by allowing itself to become a participant in the "...so-called 'pecking order' of education wherein the universities supposedly 'look down' upon the college, the colleges 'look down' upon the junior colleges, and they in turn 'look down' upon the high schools" (p. 197).

The identity crisis which earlier plagued the community college, has largely faded from the scene and:

> Community and junior colleges are recognized as institutions with their own identities... and with that identity and the simple fact of size, which makes them highly visible, they are ready to relate properly with other institutions (Gleazer, 1974, p. 3).

VOCATIONAL EDUCATION AND THE COMMUNITY COLLEGE

Vocational education did not appear in the junior college until 1916 when Chaffey Junior College offered courses in art, agriculture, commerce, farm mechanics, home economics, library work, manual training, and soils. By 1947, the curriculum in all community-junior colleges was 32 percent vocational and 68 percent liberal arts (Gillie, 1970, p. 2).

Yet, for many years, providing vocational education was perceived as a function of the secondary school mainly because the Smith-Hughes Act (Vocational Education Act of 1917) identified it as "less than college grade" (McDougle, 1974, p. 24). Therefore, the universities left this function to the public secondary schools to carry out.

Then, when President John F. Kennedy accepted office in 1961, he took immediate action to combat the high level of unemployment confronting the nation by appointing a national panel of experts to evaluate the terms of the National Education Acts to determine their capability in meeting the changing needs of society. Following a year of deliberation, the panel of consultants determined that the legislation governing vocational education since 1917 was incapable of responding appropriately to the changing labor market. The major points of the panel's recommendations were enacted into law by Congress under the provision of the Vocational Education Act of 1963. This Act extended vocational training to:

> (1) persons who attended secondary schools; (2) persons who want to extend their vocational education beyond the high school level; (3) persons who have left high school before completion but are available for full-time vocational education before entering the labor market--employed, or unemployed--and need further training to hold their jobs, to advance in their jobs, or to find suitable and meaningful employment (Evans, 1969, pp. 14-14).

This Act provided the "first real boost...supporting occupational education at the higher education level...with support to vocational programs in the public community colleges and technical institutes" (Walsh, cited in Monroe, 1972, p. 372). Congress also eliminated the phrase "less than college grade" from the language of the new Acts to fulfill the training needs of people rather than concentrating on the level of training.

Following closely behind the 1963 Act came the Vocational Education Amendments of 1968 which encouraged the concept of area vocational high schools in many states rather than the comprehensive high school. With the area vocational high school came:

> Serious implications with regard to duplication

> of personnel, facilities, and equipment, especially in areas where publically financed two-year postsecondary institutions are also present and offering similar programs. Under such conditions, articulation becomes a major area of concern (McDougle, 1974, pp. 25-26).

Bender's (1974) article entitled, "Overlooked: The Secondary Occupational Programs", pointed out that the importance of coordination by state agencies in vocational program planning is essential. He found that written agreements between secondary and postsecondary institutions regarding vocational program planning were very scarce at both the state as well as the institutional level. Bender's article related the findings of two national studies conducted to examine the problem of articulation between the two levels. The participants of the studies included both directors of vocational education and directors of community colleges in all fifty states. The results of the studies revealed that the problem areas were in program duplication and often the result of jurisdiction concerns due to separate state agencies. The studies also revealed that the greatest source of problems in transferability from secondary to college was with the community college; two-thirds of the states reported concern with developing viable articulation programs between secondary and postsecondary occupational programs. Bender found that:

> The greater the separation between the agencies responsible for community colleges and those responsible for vocational and technical educa-

> tion, the greater the problem of articulation (p. 23).

Mundt (1975), Bender (1974), and others look to the Education Amendments of 1972 as possibly providing the solution to coordinated articulation of secondary and postsecondary vocational education programs through provisions of the 1202 Commission. Present legislation pending in Congress gives full responsibility for developing state vocational education plans to the 1202 Commission.

The 1202 Commission often referred to as a super board, was created to bring about equitable articulation both horizontally and vertically. Such a board reduces institutional autonomy while increasing student autonomy. The major role the super board must play will be to "bend institutions to meet student articulation needs, rather than the other way around" (Gillie, 1973, p. 223).

Thornton (1972) sees the public high school playing a diminishing role in vocational training since the technical skills for many jobs is becoming more complicated and should be carried out at the college level. However, it is unlikely this role change will take place in the immediate future and both secondary school personnel and community college faculty and administrators will be expected to work together for fiscal economy and educational efficiency.

Today, the role of vocational education in the community college with its "open-door" commitment represents an alternative to higher education. Until recently, vocational education lacked academic respectability and was thought to be training for those students who could not do rather than for students who could do academic work. While this attitude has changed somewhat over the past five years, there still exists a need to continue the efforts to build a positive understanding and strong commitment to vocational education in the community college.

Unfortunately, the commitment to vocational education is usually limited to technical education such as two-year programs in agriculture, allied health, business, engineering, and public service when they actually should rest on a continuum and not a single model. Such skilled level programs as auto body and welding are often viewed as unworthy of higher education because they are principally concerned with manipulative skill development. It is usually thought that these are programs which should be taught in the secondary schools (Bartlett, 1971).

However, when programs are considered on a continuum, there is some area of the college that could assist the vocational education student in continuing to develop his skills which would not necessarily lead to a two-year degree program. This requires some open-endedness which provides short term courses and programs to include skill upgrading thus allowing the college to define achievement levels and build levels of educational accomplishment not based on time but on achievement (Millard, 1972).

Gleazer (1974) urges educators to be aware of certain conditions in the society which suggest that the community college will have a very close linkage with the secondary, vocational, and community schools in the next ten years. Following are the conditions to which Gleazer referred:

> There is a large percentage of high school graduates transferring into community and junior colleges.
>
> There is an obvious need for students to have an educational continuum that minimizes the difficulty of moving from secondary to post-secondary institutions.
>
> There is increasing interest in the concept of life-long learning for all.
>
> There is a growing concern for the conservation of community resources (p. 3).

The linkage referred to by Gleazer has already begun and limited examples are scattered throughout the literature. However, Bender, cited in Moore (1973), described the area of articulation between secondary and postsecondary occupational education programs as having been "noticeably neglected in the literature and research studies" (p. 28).

Woelfer's (1974) review supported Bender's conclusions that very little substantive information had been written on the subject. In fact, his search revealed only two references which dealt primarily with articulation between the secondary schools and the community college vocational education programs. One study was a 1972 report in New York on advanced placement at the community college level and the second article involved a 1968 report on agriculture programs. The 1972 report on advanced placement is discussed later in this chapter.

This investigator had a similar experience with the literature search. However, several programs relating directly to this study were found in sources other than the ERIC files. Unfortunately, the majority of the articles and studies dealt with the need for articulation rather than the method for accomplishing the task. The programs below represent a few examples of ways in which the coordination referred to throughout this study has been accomplished in several community colleges in other states.

Northampton County Area Community College, Pennsylvania. The community college and two area vocational technical schools created a Career Education Cooperative in 1972 which permitted a high school vocational education student to enroll in the community college at the end of the 12 grade, and earn the associate degree at the end of the 13th year. The first cooperative merged the secondary school practical nursing program with the community college registered nursing program to facilitate a smooth movement by students from one program to the other (Gleazer, 1974).

Corning Community College, New York. Interested teachers from the community college and the high schools developed an advanced placement program in machine tools and graphics for secondary school graduates in technical, mechanical, drafting, tool and die, and machine shop courses. Entering freshmen meeting all criteria for advanced placement were awarded two hours credit in Engineering Graphics upon passing a five-hour proficiency examination (Smith, E., 1972).

Oakland Community College, Maryland. Secondary school students entering Oakland Community College in Michigan who had completed specific skill training were encouraged to enter with credit by examination and received advanced placement in courses where the proficiency was clearly demonstrated (Hill and Nunnery, 1971).

Miami-Dade Junior College, Florida. Extending college counseling beyond the campus walls and into the high school centers was Miami-Dade's answer to articulation. Eight high schools were selected as centers and staffed with high school counselors recommended by the principals. Two student counselor aides were also assigned by the college student personnel office to assist the professional counselor. The counselor and counselor aides served to bridge the gap between the secondary school and the college through close articulation (Smith, A., 1970).

James Sprunt Institute, North Carolina. A recent article appearing in the Community College Review regarding an articulation study between the community college technical institute and the secondary schools, promoted the idea of fulfilling the following objectives: (1) to improve coordination between the institute and the public school, (2) to develop proficiency tests for selected vocational education programs common to the community college, and (3) to develop a comprehensive model to serve in other locations in the state and elsewhere. The project began in 1974 and was expected to be completed by February 1976. The areas used to develop competency based objectives were Business Education, Automotive Mechanics, and Mechanical Drafting (Woelfer, 1975).

Riverside County Junior Colleges, California. Several colleges have incorporated the concept of career ladders into the education plans. The areas where the ladder concept has been most effective were: Building Inspector, Accounting Technician, Civil Engineer, Community Planners, and Recreation Aide. The career ladder allows the student the option of changing his status through gaining either more education and/or experiences which could lead to gaining another step on the ladder (Schrupp, 1971).

Oregon State. A study to promote and guide the development of curriculum articulation between the secondary schools and community colleges in the state of Oregon recommended the adoption of occupational cluster housing. The report stated that this approach assisted the student in avoiding a "premature commitment to a narrow work specialty...by providing enough breadth in initial preparation to enable him to cope more effectively with occupational and employment changes". This study was organized into four task forces studying the following areas: Task Force I - Labor Market Data, Task Force II - Curriculum Articulation, Task Force III - Curriculum Coordination, and Task Force Iv - Open Enrollment Relations (Oregon State Board of Education, 1969).

North Carolina. North Carolina's public school system of elementary, secondary, technical institutes, and community college engaged in an articulation study to develop leadership among the above educational units. The major objectives of this study involved developing the following: (1) creating model administrative arrangements, (2) providing articulation of subject matter, (3) promoting innovation and coordination, (4) providing a total program of occupational education, and (5) providing articulation of handicapped and disadvantaged students. The report provided several examples of program development and recommendations for continuing the articulation efforts (Manley, 1970).

Colorado. A master plan to coordinate the high school, community college, and state university occupational programs in Colorado contained twelve criteria as a guide to determine the school level for offering programs. These criteria included:

1. The level of the occupation in the continuum of education, by intellectual levels, maturity factors, age of students, and the length of time required to prepare.

2. The type of program and where it most logically would best serve those who want it. (A mature adult would not avail himself of a program only available within a typical high school day program).

3. Programs are already offered, or developed should be completely utilized before they are duplicated.

4. Programs that could utilize facilities that have multiple uses (two or more occupational fields)should be assigned to the school with those facilities.

5. The "transferability" or acceptance of the program within the institution and between institutions. It is imperative that the three "levels" of institutions respect and recognize the contributions of the others.

6. Faculty are a major ingredient in the success of any program. The faculty currently available within institutions, and their preparation and competence may dictate where a program should be located. Highly qualified faculty in some areas are very scarce.

7. Accessibility of the programs to the students by type of school, type of student, location of the school, cost, etc.

8. The length of time required by the student to complete his preparation and his age level.

9. Size of the school enrollment as it related to the program. A program may require a large student population because it only attracts a very small percentage of students. The more specialized the program, the more important this becomes because there must be

enough students to warrant faculty, facilities, and instructional program.

10. The amount, nature, and diversity of related instruction available. Complex programs rely heavily upon interdiscipline offerings such as social science, humanities, business, technical, sales, and manipulative.

11. Concurrent objectives of students. Often part-time students want to upgrade themselves and at the same time pursue a degree program.

12. Programs that contain a significant need for field experience, on-the-job training, and real-life settings should be located in that school where this can be done, (Colorado Board of Education, 1968, pp. 3-4).

This study also contained a listing of careers by clusters or families and a set of recommendations for developing a state master plan.

REVIEW OF CHANGE STRATEGIES

Any attempt to change the status quo in American education is an enormous task to say the least. This task becomes even more difficult when it involves different levels of the educational system such as the secondary school and the community college. Some of the problems confronting these two educational levels were pointed out earlier in this chapter.

Unlike business and industry which usually has the potential resources for instituting a systems approach to change, educational systems have mainly dealt with change on a piecemeal basis. There have been limited attempts to link the pieces together through a planned systematic approach.

Cogan, cited in Bushnell, 1973, points up several reasons why educational organizations have not been as successful as industry in implementing the systematic approach to change. He identified at least five basic differences:

> (1) The systems analysis has been associated largely with centralized management systems whereas American education is generally decentralized and pluralistic; (2)...funding for innovation on a large scale is generally inadequate; (3) most innovation in education has not been made fully operational--the packaging is inadequate; (4) systems analysis and related specialist have only recently arrived on the educational scene and they are in short supply; and (5) education is fundamentally a human enterprise (p. 69).

Although these constraints do exist, nonetheless, there is great need for a systematic approach to educational reform. It need not be on a massive scale if planned well so as to link the results of smaller projects together.

Ronald Havelock, author of The Change Agent's Guide to Innovation in Education, suggested that most problem-solving behavior in education is usually reflexive or of the trial-and-error nature which generally resulted from a stimulus-response effect. He cited the following examples to illustrate this point: "the teachers strike--the school board fires the teachers or surrenders to their demands; students assault teachers--the superintendent puts policemen in the classroom" (p. 6). However, Havelock supported a more objective and rational approach to problem-solving which begins from the point of initial disturbance and evolves through four response stages which are:

> (1) a decision to do something; (2) an active attempt to define what the problem is; (3) a search for potential solutions; and (4) an application of one or more potential solutions to see if it will satisfy the need (p. 6, 1973).

Figure 2 represents this rational approach.

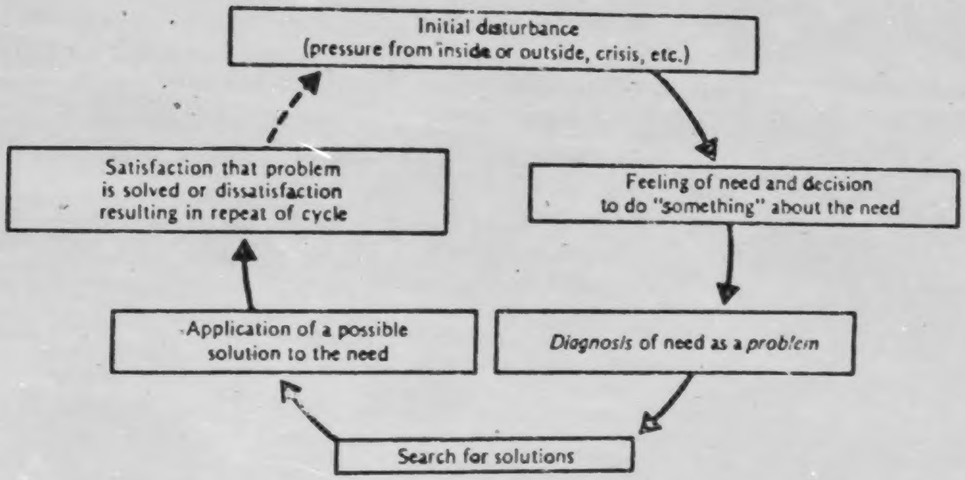

Initial disturbance
(pressure from inside or outside, crisis, etc.)
Feeling of need and decision to do "something" about the need
Diagnosis of need as a *problem*
Search for solutions
Application of a possible solution to the need
Satisfaction that problem is solved or dissatisfaction resulting in repeat of cycle

Figure 2.

Change by Rational Problem-Solving (Havelock, 1973, p. 7).

Most authorities in the area of change recognize three basic models of intervention strategies: (1) Problem-solving, (2) Social Interaction, and (3) Research, Development, and Diffusion. Following is a brief capsule view and illustrations of the three models taken from Havelock (1973).

Problem-Solving (P-S)

The focus of the problem-solving process is client-centered whereby the user articulates a need that can be translated into a problem statement or diagnosis. This process involves conducting a search and retrieval of ideas to formulate a plan for change followed by implementation and evaluation of the plan as depicted in Figure 3.

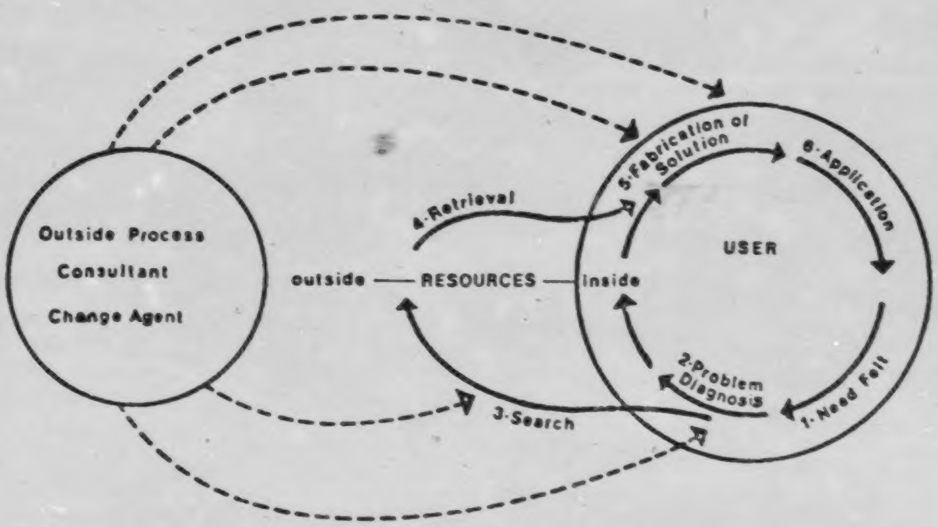


Figure 3.

The Problem-Solving Model (Havelock, 1973, p. 155).

There were five general points stressed by advocates of this process which were: (a) meeting user needs must be the only objective of the change agent, (b) diagnosis of need must be an integral part of the total process, (c) change agent must be non-directive, (d) internal resources should be fully utilized, and (e) self-initiated and self-applied innovation will have the strongest user commitment (p. 156).

Some tactics associated with the problem-solving strategy include: human relations training through T-groups and sensitivity training, counseling techniques of reflection, authentic feedback, role playing, group observation and process analysis, the derivation conference, survey feedback, brainstorming, and synectics which combines experimentation with problem-solving steps to produce a systematic innovative technique.

Social Interaction (S-I)

The main strategy of the social interactionist is supported by the tradition of empirical research and the phenomena of diffusion. There are basically five generalizations about the process of innovation diffusion which are: (a) the user's adoptive behavior is largely influenced by a network of social relations to which he belongs, (b) the user's rate of accepting new ideas is based upon whether his position in the network is central, peripheral, or isolated, (c) the informal personal contact is a vital part of the influence and adoption process, (d) the individual's group relationships influence his adoptive behavior, and (e) the rate of diffusion through the social system has a slow beginning followed by a rapid diffusion and ending with a lengthy adoption period. The process is referred to as the S-curve pattern (p. 160). How this might be viewed by social interactionists is illustrated in Figure 4.

There are five tactics associated with the social interaction strategy: mass-media dissemination, the "county agent", the salesman, prestige suggestion, and opinion leadership utilization.

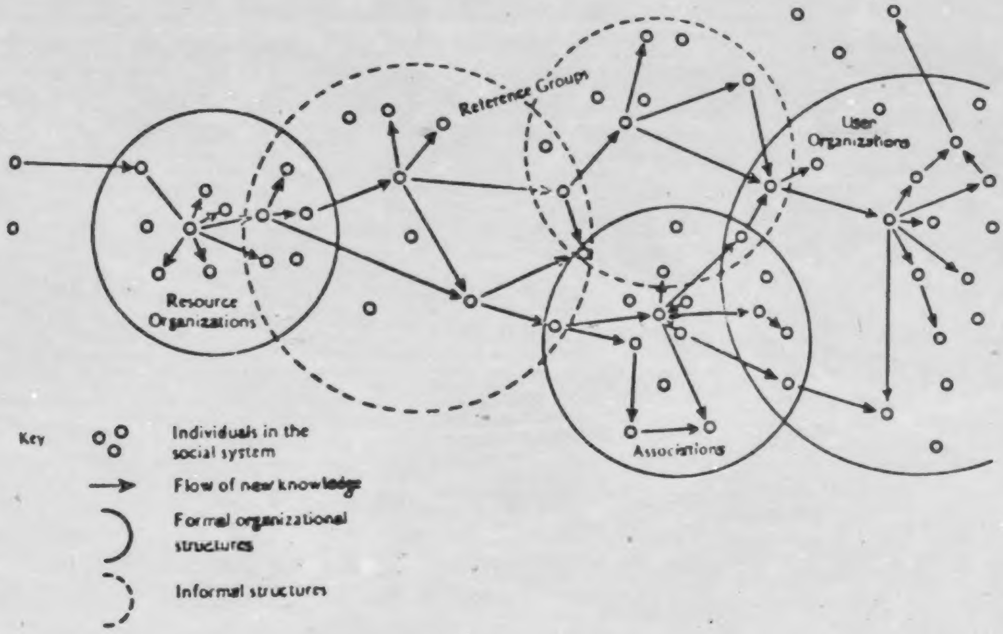


Figure 4.

The Social Interaction Model (Havelock, 1973, p. 159).

Research, Development, and Diffusion (RD & D)

The strategy of research, development, and diffusion is derived from several basic assumptions. These assumptions suggest that there should be a rational sequence in the evolution and implementation of an innovation which has been planned over a long period of time with a division or coordination of labor. It further assumes that a market exists if the innovation is available in the right form at the right time and place. Finally, there is agreement among the proponents of this strategy that initial high costs are justifiable because of the anticipated long-term benefits derived from its suitability for mass audience dissemination (p. 161). The major components of the RD & D model are outlined in Figure 5.

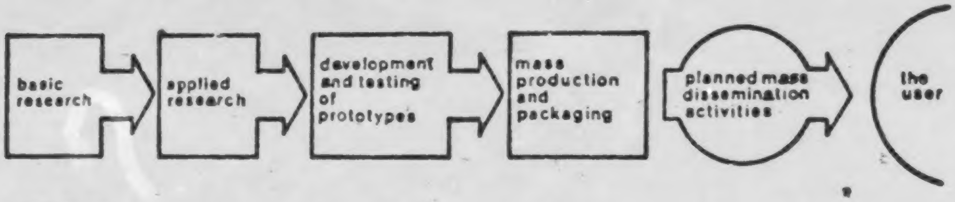

basic research
applied research
development and testing of prototypes
mass production and packaging
planned mass dissemination activities
the user

Figure 5.

The Research, Development, and Diffusion Model (Havelock, 1973, p. 162).

Several specific tactics associated with the RD & D strategy in addition to those generally related to research are: experimental demonstration, research evaluation of adoption success and failure, user needs survey, successive approximation, translations, and packaging for diffusion (pp. 163-64).

Havelock (1968) sensed a need for a synthesis of the more important variables in the aforementioned change models and analyzed 4,000 studies involving innovation and change. The results of the study produced a fourth change model which he called the "linkage model". This model also focuses upon the user as a problem-solver responding to a felt need followed by a diagnosis and eventually leading to the systematic search process. The linking aspect of the model is the problem-solver's association with outside resource groups. This relationship must become reciprocal thereby the resource group is "able to simulate the search activity which the user is going through" (Bushnell, 1973, p. 73). An excellent illustration of Havelock's Linkage Model is presented in Figure 6.

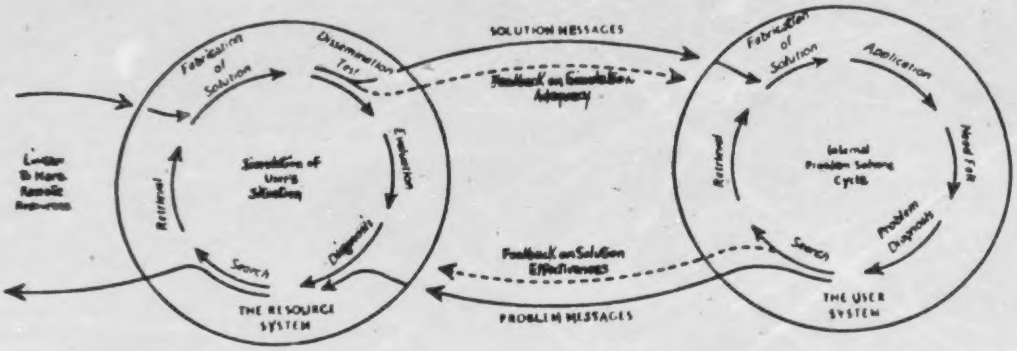


Figure 6.

The Linkage Model (Havelock, 1973, p. 163).

The illustration in Figure 6 was also taken from Havelock's book, The Change Agent's Guide to Innovation in Education.

Havelock (1973) defined four important ways to view the stages of innovation through the roles of the change agent. A description of these roles is defined below:

The change agent as a catalyst. The catalyst is primed to overcome inertia by pressuring the system into action to work on its serious problems. This role has been mainly performed by students and concerned parents in today's educational systems (p. 8).

The change agent as a solution giver. The solution giver has ideas about what changes should occur and is willing to offer the solution (p. 9).

The change agent as a process helper. The process helper is able to tell the client how change comes about and can provide valuable assistance in showing the client how:

a. to recognize and define need.

b. to diagnose problems and set objectives.

c. to acquire relevant resources.

d. to select or create solutions.

e. to adopt or install solutions.

f. evaluate solutions to determine if they are satisfying his needs (p. 9).

The change agent as a resource linker. The resource linker is "the person who brings people together, who helps clients find and make the best use of resources inside and outside their own system...Resources can consist of financing, knowledge, and people" (p. 9).

However, he was quick to point out that the four roles are not mutually exclusive of one another and that they are more effective when totally integrated into the problem-solving process.

To those who view themselves as change agents, Havelock provided the following advice: Both insiders or outsiders can be effective in the role as change agent. Outsiders often have more freedom to work within the client system and see things more objectively, while on the other hand, insiders are usually more familiar and feel the problems more deeply and present a "known quantity". A line or staff member can be an effective change agent but a position of authority has a greater oppportunity to act in a facilitating role for change. The change agent working from above has the edge if there is a clear understanding of the process, the points of leverage, the best times and places, and the circumstances (p. 10).

Bushnell and Havelock each developed a six stage model outlining the activities of the change agent. Both models are presented in Table I with roman numerals representing the order of the stages.

TABLE I

SIX STAGE CHANGE AGENT MODELS

Components	Bushnell Model	Havelock Model
Building a Relationship		I
Diagnosing the Problem	I	II
Formulating Objective and Criteria for Effectiveness	II	
Acquiring Relevant Resources		III
Identifying Constraints and Needed Resources	III	
Choosing the Solution		IV
Selecting Potential Solutions	IV	
Gaining Acceptance		V
Evaluating Alternative Solutions	V	
Stabilizing the Innovation and Generating Self-Renewal		VI
Implementing Selected Alternatives	VI	

Bushnell's (1973) model begins with a diagnosis of the problem, a formulation of objectives, identification of constraints and resources, selection of potential solutions, evaluation of the alternative solutions, and finally implementation of the alternatives (p. 74). Havelock's (1973) model was initiated by establishing a relationship between the change agent and client, then moves to a diagnosis of the problem in the second stage. The next four stages include the acquisition of resources, selection of solutions, gaining acceptance, and concludes by stabilizing the innovation and generating self-renewal (p. 11).

According to Bushnell (1973) the "problem-solver not only must tap the important persons for the perceptions of the problem but must also interpret that information in light of current theory" (p. 75). He also suggested that the change agent must decide upon the area requiring change and begin by formulating goals and objectives in quantifiable or behavioral terms for the tasks to be accomplished.

It was stressed by Havelock (1973) that the educational change agent "formulate his own strategies to suit his own peculiar background and circumstances...he can be perfectly pragmatic and eclectic in choosing tactics that fit...the situation in which he finds himself" (p. 153). Several of these tactics are listed below:

1. The change agent should consider the type of relationship which he has with his client system.
2. The special characteristics of the client system always have to be weighted carefully in choosing a strategy.
3. The characteristic of the innovation itself also should be analyzed carefully on a number of dimensions.
4. A strategy should be adopted to the specific situational factors of time, place, and circumstances.

5. The change agent should make a thorough accounting of resources to which he and his client have access, internal and external, human, material, and informational (pp. 154-155).

SUMMARY

As the community college grew in size and stature, its role in the American educational system took on new meaning. No longer was it to be viewed as an institution for cast-offs from the university system. The "open-door" concept pointed the way to higher education for students of all ages and ability levels regardless of social and economic background. The opportunities which were usually reserved for the elite in our society were now available to the masses.

However, the community college has not always enjoyed this enviable position in higher education. Not long ago, community college graduates were often confronted with what seemed to be insurmountable obstacles placed in their paths by the four-year institutions. These obstacles appeared in the form of transfer admission requirements, program prerequisites, and course equivalencies.

Today, due to declining four-year college enrollments and concern for uniform educational opportunities, many of these barriers have been eliminated; thus, two-year graduates are transferring with much more ease.

Yet, the picture is not so pretty for the high school vocational education graduate. Most four-year colleges feel the vocational education graduate has an inferior educational background compared to the academically prepared student and is less likely to succeed in a baccalureate degree program. Todate, there is little evidence to show that the vocational education student's preparation is inferior to that of the academic student. In some instances, it might even reflect a superior preparation in certain subject areas.

While this position might be accepted at the four-year college level because of its confusion about academic standards, it certainly is difficult to understand why community colleges have taken similar positions. Perhaps the community-junior college has been too quick to forget its role as middleman in higher education and from "whence it came".

The community-junior college evolved from the secondary school and from the 6-4-4 plan of which the community-junior college was actually the thirteenth and fourteenth year. However, the community college found itself in the role of a "glorified high school" and, as a result, sought an independent role which identified with the four-year institution rather than the high school. In an attempt to meet the academic standards of the four-year college, it often took on characteristics similar to those institutions.

This behavior often resulted in placing extreme hardships upon many secondary school students seeking educational opportunities in a vocational education program beyond the high school. Therefore, it is important that the community college review its mission as an open-door institution to determine whether it is capable of fulfilling its obligation to serve all segments of the society for which it was created.

The problem that continually plagues the community college is the dual system of the academic or transfer programs versus the vocational or career programs. Unfortunately, the community college is still struggling with the parity between the liberal arts and vocational-technical education. In the past, students, faculty, and community have been the primary sources of conflict in this discrepancy. However, with society's views changing relative to the value of a liberal arts education, vocational education is finally gaining respectability in the community college. The problem that still exists, however, is articulation between programs and institutions. Students have been the victims of this lack of coordination and the situation must change for the sake of moral obligation alone.

Some community colleges have attempted to identify with the vocational education programs in the secondary schools and have developed programmatic approaches to horizontal and vertical articulation. Yet, all indications from this literature review suggested that the vast majority of community colleges plan and implement programs in vocational education independently of other educational institutions, particularly the secondary schools. This was evident from the lack of continuity in program development which resulted in the duplication of course content, equipment, facilities, and human resources.

Several authors reaffirmed the need for a cooperative effort in program planning and development and recommended that the community college take the leadership role in bringing the two levels together. It was also evident from this review that the literature did not contain an adequate model of a systematic approach to the solution of this problem. Therefore, after careful analysis of different strategies utilized for bringing about change in educational settings, the model for which this study was designed emerged.

CHAPTER III

RESEARCH PROCEDURES

The Setting

The author of this study was fortunate to be associated with an institution which recognized the importance of improving articulation between the community college and the secondary school. When the Eastern Campus of Cuyahoga Community College opened in the Fall of 1971, it made a strong commitment to meet the educational needs of the community. Included in the goals of this new campus was a concern for improving the opportunities available through the College for vocational training to new students entering the institution. While the opportunity to advance students in the academic areas was commonly acceptable through the Credit by Examination Program and the Advanced Placement Program, the students from secondary vocational education programs were not accorded the same opportunities. This partly was due to the fact that very little advanced work had been done to equate the two levels of learning. Therefore, vocational education students enrolling from the high schools usually received little or no advanced credit for their high school experience.

Then, in 1974, Eastern Campus personnel initiated several meetings with secondary school vocational education directors in the campus service area to encourage closer coordination. Although this initial effort produced a positive relationship which currently exists between the two educational levels, little more has occurred along the lines of the development of course or program continuity.

The Eastern Campus is presently undergoing reorganization and planning for a permanent campus site which will have a tremendous impact upon the future educational opportunities for the residents of Cuyahoga County. The planning documents include, among other things, a concept of clustering around occupational families with emphasis on career ladders spanning the transition from the high school to the university.

This is essentially the direction the Eastern Campus envisions moving in the coming years and this study offers an excellent opportunity for the community college to assume leadership in the articulation process. To help facilitate the development of this process, it was decided that a systematic approach should be taken to bring together representatives from the secondary school vocational education programs and their counterparts from the Eastern Campus. This led to the primary purpose of this study which was to produce a model for promoting and guiding the development of coordination between the Eastern Campus and its feeder high schools and to conduct a formative evaluation of the procedures used in developing the model.

DESIGN OF THE MODEL

The development of a model assumes that the researcher has accurately assessed the problems as they exist in reality. In this case, it necessitated a thorough review of the literature pertaining to articulation between the secondary school and community college with specific regard for vocational education. The results of the review clearly indicated that an absence of coordination did in fact exist between these two educational levels. This lack of coordination had an impact upon the students, the institutions, and society in general.

While the review was very useful in pointing out the problems and provided suggested solutions, there were few studies which utilized a systematic approach for resolving such problems. Therefore, recognizing that a need existed for a more systematic approach toward a coordinated effort of program planning by the Eastern Campus and the secondary schools, this investigator undertook the challenge of developing an approach which would serve as a model for improving articulation.

In building the model, several strategies for bringing about planned change were reviewed to determine the most rationalistic approach for facilitating the desired outcomes.

The review included the change strategies of Havelock and Bushnell (Table I) in addition to the Problem-Solving Strategy, the Social Interaction Strategy, and the Research, Development, and Diffusion Strategy discussed in Chapter II. The strategy selected for this study was problem-solving because it emphasized a client centered, non-directive approach with the expertise derived from internal resources. This model was also selected because it related to the experience and background of the investigator and was consistent with previous historical data generated from earlier meetings with the secondary schools wherein the partnership and facilitator role was strongly stressed by Eastern Campus personnel.

Therefore, utilizing a combination of steps from the change models of Bushnell and Havelock and instituting the steps of evaluation and diffusion, an articulation model emerged. The six steps which evolved began with an initial function of building a sound relationship, followed by a diagnosis of the problem, gaining acceptance for the appropriate solutions, identifying constraints and resources, and end with evaluation and diffusion.

Figure 7 represents an illustration of the six-step model designed for improving articulation between the high school and the community college.

It is important to note that the sequence of steps need not occur in this order and there was an interrelationship among the steps.

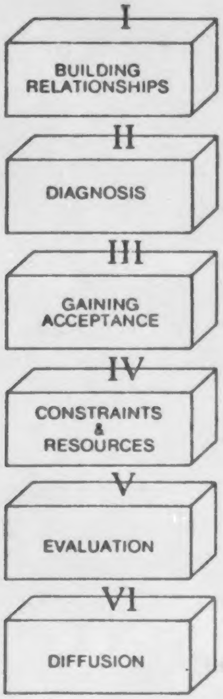


Figure 7.

A six-step model for improving articulation.

Rationale and Procedures

Following is a brief presentation of the rationale for selecting each step in the model with an accompanying statement on the procedures used to conduct the study. As the process developed, the procedures were refined to reflect a more accurate accounting of the events.

Step I. Building a Relationship

Rationale. The relationship between personnel from the secondary schools and the college had to be carefully planned and nurtured in order to develop into a strong, creative process. It was important to understand the beliefs and values of the client system as well as to identify the formal and informal leadership structures. Most of the secondary school systems were highly structured; therefore, it became essential to establish a solid relationship with all levels of leadership before proposing to innovate within the systems. It also became evident during the relationship building stage that it was not feasible to work with the entire client group. Yet, it was important to choose those members directly affected by the changes that would occur as a result of these efforts along with the system leaders.

Procedures for establishing the relationship. The procedure for building the relationship started in 1974 when the Eastern Campus administration invited top officials from each of the secondary school districts to a series of luncheon meetings to discuss areas of mutual concern and need. Included in these meetings were superintendents, principals, directors, and occasionally a counselor. The idea to concentrate on improving coordination in the area of vocational education emerged from these meetings.

The second significant procedural step taken by campus administrators in order to establish better relationships was the hosting of a meeting for all vocational education directors from the Eastern Campus service area. The vocational education directors informed the campus administrators that the meeting represented the first time that they had ever been invited by any college to share their needs and concerns.

The directors' meeting was followed-up the next year with an invitation to a counterpart meeting along with counselors and faculty from the two educational levels.

Then, beginning in the Fall of 1975, an Eastern Campus representative from the Office of Admissions was given the specific assignment of visiting with the vocational education program staffs and students to discuss the college technical programs and to set up tours for student visitations to Eastern Campus.

All these events led up to the latest project of building a systematic approach for improving articulation between the secondary schools and the community college. This also led to the second step in the problem-solving process.

Step II. Diagnosis

Rationale. Before a problem can be resolved, a thorough diagnosis of that problem must be conducted. However, a clear understanding of the symptoms, history, and possible causes had to be known before an accurate diagnosis could take place.

Positive diagnosis was stressed by understanding the interrelatedness and interdependency of the systems. According to Havelock (1973) diagnosis can be approached in three ways: (1) by identifying the problems, (2) identifying the opportunities, and (3) viewing the situation as a total system seeking to work together to achieve common goals (p. 64). All three ways were suggested as a valid means of reaching the intended goal; however, the total system approach was most valid for this study so that both the secondary school and the community college would view themselves as equals in the process.

The problem-solving strategy stresses the user-involvement and user-originated innovations as having the stronger user commitments. Therefore, two important decisions had to be made early in the development of the diagnostic process. First, what problem-solving tactic or technique should be used in identifying and resolving the problems hindering coordination in vocational education between the secondary schools and the community college? Secondly, who should represent these educational levels in the diagnostic process?

Upon the advice of the MARP advisor, the problem-solving tactic selected for this study was the utilization of the Nominal Group Technique (hereafter NGT). The NGT was chosen because it provided the best opportunity to view education as a total system rather than two opposing systems without either losing its identity. The nominal process was also viewed as a vehicle to engage the participants in an action oriented milieu which forced them to focus attention on the solutions rather than dwelling upon the problems. This productive environment was created in a workshop setting. Finally, the NGT led the participants through a systematic process of deductive reasoning which generated a list of problem areas that were put into order of priority and eventually formulated into objectives (See Appendix B for additional rationale on the advantages of the nominal process as a group technique).

The diagnostic process was responsible for creating the environment for the elements presented in Figure 8.

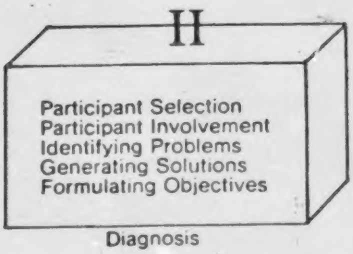


Figure 8.

Elements of the Diagnostic Process.

Once the decision was made to conduct a workshop using the Nominal Group Technique as a method for generating ideas and solutions, a very carefully planned step by step design was developed. The workshop design contained a detailed schedule of events. However, prior to actually designing the workshop, several members from the Eastern Campus counseling staff were called upon to serve on the planning team to conduct the NGT. The activities included the development of a carefully worded question which was used to generate ideas in the workshop. The team carried out the following steps in developing the question:

a) Staff discussion of the objectives of the NGT meeting.

b) Staff illustration of the type of items sought in terms of:
   1. level of abstractions
   2. depth versus breadth

c) Staff development of alternative questions.

d) Pilot-testing of alternative questions with a sample group (Delbecq, Van de Ven, and Gustafson, 1975, pp. 75-77).

The team was also fortunate to have the consultant services of a professor from Kent State University who studied under the direction of Dr. Andrew H. Van de Ven, co-inventor of the Nominal Group Technique. Each planning team member participated in the workshop as a group process recorder or facilitator. Prior to the workshop, the team conducted a mock session of the NGT to gain a greater understanding of their roles.

The planning team was chaired by the Director for

Student Activities and Placement who was also the key leader of the nominal group process. Other Eastern Campus personnel assumed responsibility for arranging packets of material for each workshop participant and helped to finalize details of the workshop such as arranging the room for eight groups with specific supplies and equipment and also arranging the luncheon. Very careful planning was necessary in the case of the nominal group process to provide the maximum opportunity for the desired outcomes to occur.

The nominal group process followed a structured format and was initiated with a well planned statement setting the tone for the purpose of the workshop and some idea about the expectations of the results were presented by the Dean for Curriculum and Instruction. The prescription for conducting the NGT was far too detailed to include in the body of this study, therefore, a more detailed description of the procedures taken from the guide by Delbecq, Van de Ven, and Gustafson (1975) was included in Appendix C for review.

The question developed by the planning team was made available to the participants just prior to the beginning of the session and presented formally to the group by the leader. The participants were instructed to respond to the following question in writing:

Question: What action steps can we (vocational high schools and community college) cooperatively take to facilitate the best vocational education opportunities for students as they move from secondary educational levels?

This initial step was followed by a series of activities which served to identify problem areas and propose possible solutions.

Procedures used to select workshop participants. In selecting workshop participants, three guidelines were followed. (1) the counterpart combination of administrators, counselors, and instructors used in Linksz's (1971) articulation study, (2) secondary school staff members recommended by the vocational education directors, and (3) Eastern Campus personnel selected on the basis of their involvement with vocational education programs. All participants were sent written invitations (Appendix D) and followed-up with confirming personal telephone calls. The format for the counterpart design was constructed in the following manner:

ADMINISTRATIVE LEVEL

Community College Level
  Dean of Instruction
  Assistant Deans

Secondary School Level
  Vocational Education Directors
  Individual Program Supervisors

COUNSELING LEVEL

Community College Level
  Counselors

INSTRUCTIONAL LEVEL

Community College Level
  Instructional Staff

Secondary School Level
  Instructional Staff

The major purpose for selecting participants in this manner was due to a user-involvement strategy whereby the potential for implementing the solutions would be greater if those staff members responsible for carrying out the changes were given the opportunity to participate in identifying the problems and recommending the remedy.

A total of sixteen secondary school districts were contacted and a combination of 36 instructors, counselors, and administrators accepted invitations to attend the workshop. Out of the 36 secondary school participants invited, 33 or 91 percent, actually attended.

Twenty-eight Eastern Campus faculty, counselors, and administrators were invited by the Dean for Curriculum and Instruction and the Dean for Community and Student Services. All 28 college members participated in the workshop which was held at a local motor inn on March 3, 1976. This favorable response of participation is probably attributed to the high interest in articulation by both types of institutions.

Of the sixty-one workshop participants, 34 percent represented high school and college administrators, 20 percent were counselors, and 46 percent were high school and college instructors.

Table II represents a list of participants by title and type of institution.

TABLE II

PARTICIPANTS BY TITLE AND TYPE INSTITUTION

Position	High School	College	Total	
	No.	No.	No.	%
Administrator	11	10	21	34
Counselor	2	10	12	20
Instructor	20	8	28	46
Total	33	28	61	100

The 11 secondary school administrators were either vocational education directors or their assistants and the 10 college administrators were deans and directors involved in counseling and technical program development.

Procedures used for participant involvement. Throughout the development of this project, a number of key personnel from both the Eastern Campus and the secondary schools were involved. The involvement was first initiated during the period of establishing a relationship which was discussed in the first step of the model. However, the participant involvement in the workshop was much more direct and measurable. The nominal group process involved a participatory structure with a balanced social-emotional focus but was high task centered. Again, the structure focused on productivity with a high level of participation.

Each member was encouraged to be an independent thinker and all contributions were positively received. The workshop was problem-centered, proactive, and each member was recognized as an equal regardless of position or status. This process required the participants to reach closure much quicker than most other group techniques according to Van de Ven (1974).

These conditions were maintained and controlled by the group leader and the individual group recorders by adhering strictly to the procedures recommended by the authors of the NGT guide.

These six basic steps led to the identification of problems, provided possible solutions, and provided a list of priority items for solutions which eventually formulated the objectives presented in Chapter IV.

Procedures for identifying the problems and formulating objectives. Following the participant responses to the question on cooperating to provide optimum opportunity for vocational education students moving from secondary schools into higher education, the groups identified the problem areas and listed possible solutions. The next step was clarifying the ideas for each member in the group and moving to a preliminary vote on the items. Following the voting, a tally was made and the opportunity was provided for further discussion before a final vote was taken to rank the items in order of importance. These items were recorded as the most important issues needing attention by each group. These items were compiled from the eight groups and formulated into a set of objectives emanating from the workshop. The problem-solving process followed in the workshop is presented in Figure 9.

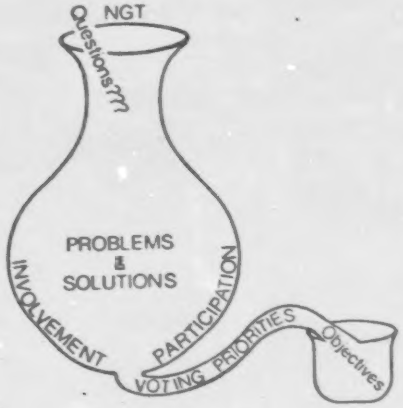


Figure 9.

Input-Output process of the NGT.

The NGT was designed to force out of the process a set of working objectives which represent the opinions and values of the groups. A brief protocol of the process with a problem-solving step by step description and the approximate time needed to conduct each activity is presented below.

Protocol of the NGT Design. The following protocol for the NGT was carefully rehearsed and followed during the workshop:

Time		
15 minutes	Step 1.	Silent generating of ideas in writing. Present nominal question and charge group to write ideas.
20 minutes	Step 2.	Record ideas on Flip Chart. Each participant was provided an opportunity to present his ideas for recording on flip chart in brief phrases or statements.
30 minutes	Step 3.	Serial Discussion for Clarification of Ideas. Each participant was provided an opportunity to express logic behind items.
15 minutes	Step 4.	Preliminary vote on Item Importance. Each participant was asked to select from entire list a specific number of items and rank them on separate 3x5 cards. Tally vote and record on flip chart.
20 minutes	Step 5.	Discussion of Preliminary Vote. Brief discussion for clarification of items.
15 minutes	Step 6.	Final vote. Each participant selects most important five items and ranks them on 3x5 cards. Tally vote and record on flip chart.

The objectives should be stated in terms of output to focus upon performance assessment. Bloom (1956) and Krathwohl (1969) each developed taxonomies of educational objectives in which they described the cognitive and affective domains in behavioral terms. These two references were used to formulate the objectives for this study.

Finally, the objectives should be worthy of the effort and participant collaboration in the problem-solving process provided a greater assurance that the expected outcomes were realistic and obtainable.

Step III. Gaining Acceptance

Rationale. The step for gaining acceptance was positioned third in this study but Havelock's model placed it in the fifth stage. The justification for treating it in the third step in the articulation model was determined by the actual order of events followed by the investigator. It became apparent once the diagnosis had taken place that a sound commitment by both the community college and the secondary schools was necessary before the intentions or the objectives could be transformed into action. Therefore, the original plan called for a commitment by the directors and deans of the two educational levels to implement the plan.

Procedures for gaining acceptance. The plan called for the administrators who participated in the workshop to be invited to a meeting to approve the objectives from the workshop and decide on the next appropriate step to be taken. The meeting was chaired by the Eastern Campus Dean for Curriculum and Instruction. The participants were contacted by phone which was followed-up by letter describing the intent of the meeting. Attendance was confirmed by phone a week before the meeting date.

Twenty-one administrators were invited to the meeting which was held April 26, 1976. This represented 34 percent of the total 61 participants attending the workshop. Table III represents the actual attendance by the administration.

TABLE III

ADMINISTRATORS ATTENDING PLANNING MEETING BY TITLE AND INSTITUTION

Title	Secondary School No.	Community College No.	Total No. (%)
Dean	-	2	2 (17)
Assistant Dean	-	2	2 (17)
Director	5	2	7 (59)
Assistant Director	1	-	1 (8)
Total	6	6	12 (100)

As an outcome of the administrators meeting, it was decided that the top executive officials of the institutions should be presented with the objectives from the workshop for sanctioning. Therefore, the superintendents, vocational education directors, and campus and district representatives were invited to a luncheon meeting by the Eastern Campus President to review the objectives and approve an articulation advisory council.

Results of the two administrative meetings was reported in Chapter IV.

Step IV. Constraints and Resources

Rationale. Identifying constraints and acquiring needed resources are two very important aspects leading to the success or failure of a project. Both may take the form of funds, people, or facilities and should be considered early in the problem-solving process.

The constraint which had to be given special consideration connected with this project concerned the fact that vocational education is controlled by two separate governing bodies in Ohio--the State Department of Education for secondary education and postsecondary education by the Ohio Board of Regents. It was pointed out in the literature review that when separate agencies were in charge the effort to gain coordination can be more difficult. However, this is only speculative at this point and may not present a stumbling block.

The only serious constraint that has been identified thus far involves the availability of the secondary school personnel to participate in on-going activities. Unfortunately, the school day is tightly structured whereas the college personnel are more flexible in their scheduling. Therefore, attendance at planning sessions was often sparsely attended by the secondary school faculty.

Since the change agent was a member within the system as opposed to an "outside" change agent, a greater attempt was made to utilize the resources inside the system. This has been especially true regarding the use of human resources as planners and program leaders. Some examples of this has been the Campus President, Dean for Curriculum and Instruction, the Director for Student Activities and Placement, the counseling staff, and a director of a secondary school vocational education program.

Procedures for identifying constraints and acquiring resources. While no formalized plan has been established at this point for identifying constraints and resources, it would be safe to state that this process has gone fairly well without one. However, it is suspected that once objectives have been formulated for a project of this nature, these areas must be clearly identified and an inventory developed before proceeding.

A formal set of procedures should follow a pattern similar to the one already described in this model such as conducting a diagnosis to determine the problem and formulate the objectives. The next step involves the matching of objectives with available resources. Of course, this requires a broad knowledge of the resources available or resource universe. Havelock (1973) refers to this as "homing in" on resources which has the highest probability of paying off since an unlimited number of resources are available. A simple step by step procedure might look like this.

1. Diagnosis of the problem.

2. Determine a possible solution.
3. Become knowledgeable of resource universe.
4. Formulate objective to resolve problem.
5. Select resources to accomplish objective.
6. Evaluate.

There are many ways to become aware and knowledgeable about the resource universe such as maintaining personal contact with other professionals who are knowledgeable in the field, reading journals and periodicals, attending professional conferences, contacting noted people who specialize in the area of your interest, and consulting with colleagues. It is also wise to turn to the experts when in doubt for advice and guidance rather than engaging in a trial and error method. Often, the results are too costly and the entire project might be lost because of an inability of the change agent to provide the proper resource regardless of whether it was material, people, or products.

Step V. Evaluation

Rationale. Before an innovation can be referred to as successful, it must meet certain expectations. Unfortunately, too often in education, a practice is continued without requiring a systematic evaluation of the practice. Evaluation is best accomplished when a clear set of objectives have been formulated with specific criteria for measuring effectiveness. Again, the objectives should be stated in behavioral statements and outcomes. This information must be generated within the system according to the problem and the needs to be effective. It cannot be acquired from outside resources. We can acquire images of solutions from other systems but not details.

Procedures for conducting the evaluation. The procedures for evaluating the effectiveness began with the formulation of the objectives because the objectives control the means for measuring the results of the study.

The objectives for this study were: (1) to identify the problem areas in articulation and achieve a consensus on the priority items; (2) to demonstrate the utilization of resources within the system rather than outside groups; (3) to gain official acceptance of a proposed plan for improving articulation as an outcome of this study; and (4) to demonstrate the leadership role of the community college in the articulation process.

The second major step was determining the criteria for assessing the results. Again, the data must be determined within the system.

Once the criteria have been determined, a method for treating the data must be agreed upon and the evaluation begins.

In the case of this study, several instruments were developed to provide data on the effectiveness of the project which included an attitude opinionnaire and a workshop evaluation. These results are reported in Chapter IV.

The workshop evaluation consisted of five questions designed to evaluate the effectiveness of the workshop and the Nominal Group Technique. Immediately following the workshop, each participant was asked to respond to these questions:

1. Was this type of workshop experience worthwhile in your opinion?
2. Was the technique used to guide the discussion effective?
3. Would you recommend the Nominal Group Technique as a method for leading other articulation groups?
4. Did this experience meet with your expectations?
5. Would you be interested in attending a training seminar at Eastern on the Nominal Group Technique?

The participants were required to respond to the first four questions by checking the following categories: "definitely", "somewhat", or "definitely not". The fifth question required a "yes" or "not interested" type response (See Appendix E).

Data was also obtained by administering a pre-and-post-opinionnaire to each participant attending the workshop.

The procedure followed in developing the opinionnaire for this study was patterned after the Likert-type method rather than the Thurstone technique because the Likert was found to provide similar results with much less time required to construct the instrument (Best, 1959).

The initial step in constructing the opinionnaire consisted of developing a number of statements reflecting favorable and unfavorable opinions regarding vocational education at both the high school and community college level. The statements were then administered on a trial basis to administration and faculty of a high school vocational education program to obtain their reactions to the statements. Input on the statements was also obtained from the Dean for Curriculum and Instruction of the Eastern Campus.

Following trial testing of the instrument, it was reduced to twenty statements and a Likert-type scale adopted to provide a technique for measuring the response. Of the twenty statements, nine related favorably to the vocational education viewpoint while the remaining eleven reflected an unfavorable opinion. (A copy of the opinionnaire is available for review in Appendix F).

Each participant was asked to respond to the statements according to the following scale:

1 - I agree with the statement.
2 - I tend to agree with the statement.
3 - I cannot say.
4 - I tend to disagree with the statement.
5 - I disagree with the statement.

The participants were instructed in their invitation letter to complete the first opinionnaire and bring it to the workshop. An identical opinionnaire was administered immediately following the workshop. Each participant was assigned a number which was used to identify the pretest and posttest for scoring.

The One Group Pretest-Posttest Design. The research design selected from Campbell and Stanley (1966) for purposes of this study was the One Group Pretest-Posttest because a single experimental group was involved.

The One Group Pretest-Posttest Design form was:

O_1	X	O_2
Pretest	Program	Posttest

This design provided a baseline of information from each participant before (O_1) instituting the program (X) and a posttest (O_2) following the nominal group process. In this study, "program" refers to the Nominal Group Technique and the pre and posttest relates to the opinionnaire.

Campbell and Stanley (1966) have raised some questions about controlling the internal and external validity of the One Group Pretest-Posttest Design, however, Suppes, cited in Anderson and others (1975), "stressed the need for designs and methodologies that allow estimates of the magnitudes of effects, not just tests for their existence..." (p. 19).

The numbering system in the scale was used for scoring the results of the opinionnaire. It is also important to note that this instrument has limitations such as exactness in measuring opinion and the accuracy of equal spacing between intervals on the rating scale. However, the data generated from this instrument has merit when these limitations are recognized.

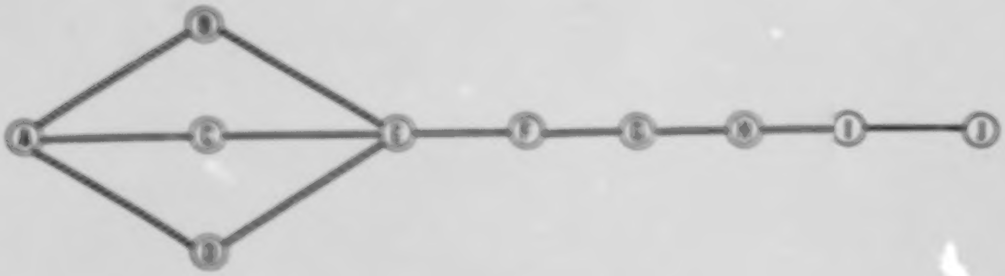
Treatment of the data. The data collected in this study were treated statistically using a computer program known as the Statistical Package for the Social Sciences (SPSS) because it offered the researcher a wide variety of statistical alternatives.

The SPSS was developed in 1965 at Stanford University primarily to serve the research needs of the institute for Political Studies. Since then, it has undergone many program changes and is widely used in current studies by social scientists (Nie and Others, 1975).

In view of the experimental nature of the scales of an opinionnaire survey such as the Likert-type used in this study and the workshop evaluation, the statistical analyses employed were frequency distribution, simple percentages, mean differences, and a test for significance.

The computations were conducted on the Eastern Campus mini-computer which is tied to Chi-Corporation on a time sharing basis.

To aid in evaluating the progress of the study, it became apparent that a systematic approach toplanning was necessary. Therefore, each critical activityinvolved in carrying out the program was identified and potted step by step on a flow diagram (See Figure 10).



(A) Begin Project Development - February 9, 976.
(B) Select Staff and conduct training session in Nominal Group Technique by February 27, 1976.
(C) Contact all secondary school vocational ducation directors by phone to discuss workshop ad identify names of participants by February 20, 1976.
(D) Design and test opinionnaire by February 20, 1976.
(E) Send invitations to all workshop participants and enclose instructions for completing opinonnaire.
(F) Plan Total Program by February 27, 1976.
    1. Make Staff Assignments
    2. Assign Participants to Groups
    3. Design Questions for Nominal Group Technique
(G) Conduct Workshop - March 3, 1976.
    Administer Second Opinionnaire
    Administer Workshop Evaluation Form
(H) Progress Report - Follow-up to Counselor and Instructors - March 26, 1976.
(I) Conduct planning meeting with all adminitrators - April 26, 1976.
(J) Conduct Meeting of chief administrators of the two institutions and their supervisors, May 25, 1976.

Figure 10.

Flow Diagram of Program Activities.

Step VI. Diffusion

Rationale. The final but equally important step in the articulation model was diffusion. Unlike the advocates of the Research, Development, and Diffusion Model who suggest that a well designed procedure or application will sell itself to users, this investigator believes that a well planned procedure for diffusion must be developed. In the case of this study, it must begin within the system.

Procedures for diffusion of the model. The most important step in the diffusion of the articulation model was gaining acceptance within the Eastern Campus service area. The key officials had to accept the plan before it could be implemented on a system-wide basis. These key persons included the executive decision makers from the two levels of education and consisted of representation from the College district as well as the campus and the superintendent of schools from as many school districts as possible.

The workshop was video taped for dissemination at cost to any users who would wish to purchase it as a resource.

Finally, the MARP will be available through ERIC and should assist in the diffusion of the study. Other methods of diffusion were included in the recommendation of the study.

SUMMARY

The literature search clearly revealed that a need existed for the design of a systematic approach for improving the coordination between vocational education programs in the community college and the secondary schools. Therefore, the primary purpose of this study was to design a model for promoting and guiding the systematic coordination in vocational education between the Eastern Campus of Cuyahoga Community College and its feeder secondary schools.

Several approaches to systematic change were reviewed which included: the Problem-Solving Strategy was selected as the basic model for this study because of the emphasis on participatory involvement and internal resource utilization. Components of Bushnell and Havelock's strategies for change models were also employed in this model.

The articulation model emerged as a six-step building block design which included the following steps: I. Building the Relationship, II. Diagnosis, III. Gaining Acceptance, IV. Constraints and Resources, V. Evaluation, and VI. Diffusion. Each step was developed from a basic rationale with a description of the procedures followed in its development.

The diagnostic process was the focal point of the model and the Nominal Group Technique was chosen as the problem-solving tactic which was used in a workshop setting. The workshop participants were representative of a counterpart constituency of faculty, counselors, and administrators from the two educational levels. The highly structured workshop format provided the opportunity for identifying the problems, selecting solutions, and formulating objectives.

Step three required the gaining of acceptance of the objectives by the chief administrative leadership of the vocational schools and the College. This involved a meeting with the superintendents of the school districts, vocational education directors, and key officials of Cuyahoga Community College. The results of that meeting was reported in Chapter IV.

Two instruments were administered to assess the attitudes of the workshop participants towards articulation and that data has also been treated in the fourth chapter.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The primary purpose for conducting this study was to design a model for promoting and guiding the development of a systematic approach to coordinating program planning in vocational education between the Eastern Campus of Cuyahoga Community College and its feeder high schools. The model which eventually emerged from this study consisted of a six step process which included: I. Building a Relationship, II. Diagnosis, III. Gaining Acceptance, IV. Constraints and Resources, V. Evaluation, and VI. Diffusion.

In reporting the results, each step was analyzed in a manner similar to the format followed in Chapter III, although in interpreting the results, it was often more meaningful to combine steps because of their interrelatedness. However, the sixth step was not reported in this chapter because the diffusion stage in this study will occur as a follow-up process once the finished product has been made available for distribution.

Therefore, this chapter represents a formative evaluation of the steps utilized in developing the model according to the following objectives: (1) to identify the problem areas in articulation and achieve a consensus on the priority items; (2) to demonstrate the utilization of resources within the system rather than through outside resources; (3) to gain official acceptance of a proposed plan for improving articulation as an outcome of this study; and (4) to demonstrate the leadership role of the community college in the articulation process.

The basic sources of data for this study were generated from the following: meetings held with key administrative personnel from the Eastern Campus and the secondary schools, an articulation workshop consisting of counselors, faculty, and administrators from the two educational levels, an evaluation of the workshop, and finally, a pre and post opinionnaire administered to all workshop participants.

RESULTS

Steps I and III. Building Relationships and Gaining Acceptance

The initial contacts made by Eastern Campus personnel with all levels of the secondary school system (superintendents, principals, vocational education directors, counselors, and faculty) served mainly as an opportunity to explain the position of the Campus regarding vocational education and other educational issues. However, it was very important that those initial contacts with secondary school personnel conveyed friendliness, openness, and a sense of equality rather than a superior or "talking down" attitude. While this was a genuine posture for the Eastern Campus administrative staff, nonetheless, there was a conscious effort to convey these attitudes to minimize any perceptions of threat. Finally, with the experience of continuous contacts, the problems of communication and mistrust began to diminish.

The relationship which appeared to have special significance for long range planning and involvement between the two educational levels occurred during the recent meetings with administrative personnel. These meetings began nearly three years ago with Eastern Campus deans and secondary school vocational education directors and resulted in the plans for the articulation workshop which led to the meeting on April 26, 1976, in which agreement was reached on several important decisions.

The administrators concluded early in their discussion that very little progress would be achieved unless the executive heads of the institutions were willing to agree to a definite commitment to the concept of coordination. This conclusion lead the group to a unanimous agreement to take the following action:

1. To call together a coordinating council consisting of the secondary school superintendents and vocational education directors to be complemented by the Campus President and his deans and directors.
2. That the Eastern Campus of Cuyahoga Community College assume leadership for bringing an advisory council together to gain an executive level decision for improving articulation in vocational education between the community college and its feeder secondary schools.
3. To seek direction from the advisory council regarding the establishment of ad hoc committees and task groups to: (1) conduct a need analysis, (2) study means for providing joint curriculum development, and (3) plan joint utilization of facilities, equipment, and personnel.

The Eastern Campus Dean for Community and Student Services accepted responsibility for planning the meeting for the vocational education directors and secondary school superintendents and a tentative date of May 25 was suggested. The details of this meeting are reported later in this chapter under the subheading, "Administrative Planning Meetings".

Other indications of building positive relationships occurred between the admissions representative and the secondary school vocational education counselors and faculty. Since the representative was given the specific assignment of visiting with these secondary school personnel, a growing number of tours were conducted for students wishing to visit the campus. There were a number of Eastern Campus faculty visiting the secondary schools this past year to meet with school personnel and students. It would appear that the opportunity has arrived for bringing the groups together for committee assignments in the near future.

Step II. Diagnosis

The primary purpose for conducting this diagnosis was to develop a systematic approach for assessing the problem areas and identifying potential solutions. The initial meetings between the deans and vocational education directors provided some insights into the general problem areas; however, little or no specific action had been taken to rectify the situation through a systematic approach. Therefore, this situation provided an excellent opportunity for the Eastern Campus administration to assume a direct role in instituting such an approach by using a workshop and the Nominal Group Technique to generate ideas.

The data from the workshop consisted of responses from a single population made up of key personnel from the Eastern Campus of Cuyahoga Community College and its feeder high schools which included sixty-one faculty, counselors, and administrators (See Table 11).

Results of the Articulation Workshop. The participant response to the workshop by both the secondary schools and the community college was 95 percent or 61 participants out of a possible 64. The participants were divided into eight subgroups with approximately eight members in a group. One leader directed the activities for all eight groups and a recorder was assigned to each group to facilitate the process. Following an introductory statement describing the Nominal Group Technique, each participant was directed to respond to the following question in writing:

> *What action steps can we (vocational high schools and community college) cooperatively take to facilitate the best vocational education opportunities for students as they move from secondary educational levels?*

The question generated a mean of 19 responses per group ranging from a low of 12 to a high of 23 responses. Following the discussion, each group member selected five (5) priority items from his group's total list. The final step in the process required that each member vote on the five most important items on the list and a tally was made to establish the five priority items for each group. The priorities were determined by ranking the five most important items in each group.

Following the workshop, the total list of priorities was categorized according to the three dimensions described by Linksz (1971) in his articulation study of the Maryland schools. The dimensions were classified as:

The Information and Communication Dimensions

1. Collegiate programs of public relations which take special note of the college's occupational programs.
2. The regular provision of opportunities for high school students and their parents to receive data on collegiate occupational program opportunities via Open House or College Nights or other such activities.
3. The establishment and regular use of channels of information transmission between high school and college counseling and admission staffs.
4. Annual face-to-face meetings to discuss articulation problems and potentials between counterpart individuals in several positions at community college, high school, and county administration levels.
5. Annual opportunities for students in high school vocational programs to meet with community college students enrolled in similar speciality programs at the college.
6. Communication between Board of Trustees and Board of Commissioners members which are made evident via a mandate for cooperative activities between levels.
7. Existence of a cooperatively formulated policy statement which specifies the roles and responsibilities of high school and community college with regard to occupational education.

The Interaction Dimension

1. Existence of collegiate policies which grant credit or advance standing based on successful

> completion of high school occupational coursework in a speciality similar to that the student is enrolled in at the college.
>
> 2. Existence of cooperatively developed programs of study which span the last two years of high school and the community college years.
> 3. Joint appointment of specialized faculty members by high school and community college.
> 4. Joint appointment of occupational facility administrators by high school and community college.
> 5. Existence of an occupational education facility to be shared by community college and high school.
> 6. Planning for an occupational education facility to be shared by community college and high school.
> 7. Existence of programs in which facilities on either the community college or high school campus are used partially by the other students.
> 8. Existence of programs at either the high school or community college level which prepare students for entry level jobs at a similar level of competence as a program at the other institution (pp. 164-165).

Subgroup voting on priority items. The eight subgroups generated a grand total of 150 responses to the articulation question of which 95, or 63 percent related directly to the three dimensions. Fifty-five items or 37 percent were unrelated to the specifics regarding the three dimensions. Table IV is a presentation of the number of responses recorded by each subgroup.

The total number of responses relating specifically to the information dimension, communication dimension, and interaction dimension was 20, 34, and 41 respectively.

TABLE IV

RESPONSES GENERATED THROUGH NGT BY SUBGROUPS

Sub-groups	No. Responses by Dimensions			Total Dimension Responses	Other	Total
	Info.	Commun.	Inter.			
No. 1	3	4	6	13	10	23
No. 2	2	2	6	10	8	18
No. 3	3	5	3	11	9	20
No. 4	4	5	4	13	6	19
No. 5	-	4	7	11	9	20
No. 6	3	6	6	15	3	18
No. 7	4	3	4	11	9	20
No. 8	1	5	5	11	1	12
Totals	20	34	41	95	55	150

From the 95 responses generated, the final vote in the NGT process reduced this number to 40 items. A summary of the voting by the eight subgroups is presented below according to the three dimensions.

Information Dimension

Item No. 1

General Category: Needs Analysis

Four groups listed this item among their top five choices. These items related specifically to the coordination of an occupational need analysis in this geographic area to be used an input data for the development and implementation of vocational education programs.

Item No. 2

General Category: Information Dissemination

Four of the eight groups listed this point as a priority item. It was suggested that an organized program for the dissemination of information be established to inform high school vocational education students of the programs available to them at the college. These items included the suggestion for scheduled visits by college counselors to the high school to disseminate the information and counsel with interested students.

Item No. 3

General Category: Articulation

Three groups considered this point as important. It was suggested that a process for improved articulation between high school and college personnel be established which might:

a) improve information dissemination
b) allow for counseling
c) establish a working relationship between
   the high school and the college counselor

Item No. 4

General Category: Public Relations

Two groups included an item on public relations among their top five. They recommended that the institution embark upon a public relations program to educate the public as to the importance of vocational education.

Communication Dimension

Item No. 1

General Category: Increased communication via a coordinating council or committee

One of the five items from each of the eight groups concerned the topic of communication and/or the method by which communication could be improved. These items included the suggestion to establish a coordinating council or committee which would include representatives from the following areas:

a) students
b) high school and college faculties
c) high school and college administrators

d) high school and college counselors
e) school board members
f) business and community leaders

Interaction Dimension

Item No. 1

General Category: Curriculum Committee

Six groups listed the topic of curriculum as a high priority item. It was suggested that a joint curriculum committee be established to:

a) assess the needs of both the high school and the college to determine a means for meeting those needs
b) have the faculties discuss course content and job level preparation
c) cooperatively develop curriculum between the high school and the college

Item No. 2

General Category: College credit based on skill competencies

Four groups elected and submitted items pertaining to this topic. It was recommended that a process be established to determine levels of competency in the various vocational education skill areas and that college credit be granted in all appropriate areas. The principle objective for this program was to avoid the duplication of learning experiences.

Item No. 3

General Category: Physical Facilities

Four of the eight groups listed this factor as a significant item. It was suggested that a survey of the physical facilities of the high school and the college be evaluated and considered in the planning and conducting of vocational education programs so that the duplication of plan and facilities can be avoided when and where possible.

The remaining items were considered important by only one group as significant in selecting the five priority items:

a] High school and college institutions should politic the state to accept the progressive ideas of vocational education programs from the high school level to the college level through articulation between the three state level divisions--public secondary school, community colleges, and senior colleges.
b) High school and college student should be exposed to a knowledge of the "work ethic".
c) The community college should emphasize vocational skills in the curriculum and make optional unrelated college level courses.
d) A follow-up study should be generated to determine the number of vocational education students who continue their education beyond high school and where they attend.
e] Students should be adequately evaluated in the areas of writing and math skills.

The ranking of items by the eight subgroups is presented in Table V. The items receiving 50 percent of the votes or more included: (1) to establish a coordinating committee composed of key personnel from the two educational levels, (2) to appoint a joint curriculum committee, (3) to conduct a need analysis survey pertaining to manpower needs and current vocational education programs in Cuyahoga County, (4) to develop a network for disseminating information, (5) to design a system for awarding college credit for course work completed in secondary school vocational education programs, and (6) to provide a means for the joint sharing of vocational education facilities by the secondary school and the community college. In all, 13 major items were identified as priority areas of concern for improving articulation between the two educational units.

TABLE V

VOTING PATTERNS OF SUBGROUPS ON PRIORITY ITEMS

Ranking of Priority Items	No. Votes by Subgroups	Percent Votes By Subgroups
1. Coordinating Council	8	100%
2. Curriculum Committee	6	75%
3. Need Analysis Survey	4	50%
4. Information Dissemination	4	50%
5. Awarding College Credit for High School Equivalent Courses	4	50%
6. Joint Usage of Physical Facilities	4	50%
7. Articulation	3	38%
8. Public Relations	2	25%
9. Coordination of all levels of articulation	1	13%
10. Expose students to work ethic	1	13%
11. Optional unrelated vocational college courses	1	13%
12. Follow-up study to determine vocational education-continuing education	1	13%
13. Assess student mathematics and writing skills.	1	13%

Step V. Evaluation

The Workshop Evaluation. Included in the workshop packet of materials for each participant was a Workshop Evaluation Form to be completed immediately following the final session. This instrument consisted of four questions directly related to the evaluation of the workshop and a fifth question identifying further interest in the Nominal Group Technique. The participants were asked to rate the workshop experience as "definitely", "somewhat", or "definitely not" valuable in their opinion.

Eighty-four percent or a total of 51 participants returned the Workshop Evaluation. Their responses are interpreted in terms of percentages (See Table VI).

The first question required each participant to respond to the value of the workshop experience. Ninety-eight percent found the workshop to be of value for which 73 percent responded with a "definitely" value rating while 25 percent rated it "somewhat" worthwhile. The second and third questions were directly related to the worth of the technique used in the workshop and again 98 percent of the respondents marked definitely or somewhat. Question number four asked the respondents if their expectations had been met and 43 percent definitely thought that their expectations were reached while 53 percent indicated somewhat.

When asked if there was interest in attending a seminar to learn about conducting the Nominal Group Technique, the response was 71 percent "yes" while 29 percent indicated no interest.

TABLE VI

PARTICIPANT RESPONSE TO WORKSHOP EVALUATION

Questions	Yes	Somewhat	No	Totals
	N (%)	N (%)	N (%)	N (%)
1. Was workshop worthwhile?	37(73)	13(25)	1 (2)	51(100)
2. Was NGT effective?	35(69)	15(29)	1 (2)	51(100)
3. Would you recommend NGT to other groups?	33(65)	16(31)	2 (4)	51(100)
4. Did experience meet your expectations?	22(43)	27(53)	2 (4)	51(100)
5. Are you interested in NGT training?	37(73)	14(27)	- -	51(100)

The data was further divided by type of institution to determine whether the high school and community college responses differed. When the data was analyzed in this manner, it was found that 30 secondary school and 21 community college participants completed the workshop evaluation to make up the 51 respondents. The results of this analysis is presented in Table VII and VIII.

An analysis of these two groups indicated that 97 percent of the secondary high school and 100 percent of the college participants found the workshop to be worthwhile.

TABLE VII

SECONDARY SCHOOL PARTICIPANTS' RESPONSES TO WORKSHOP

	Secondary Schools			
Questions	Yes	Somewhat	No	Totals
	N (%)	N (%)	N (%)	N (%)
1. Was workshop worthwhile?	22(74)	7(23)	1 (3)	30(100)
2. Was NGT effective?	19(64)	10(33)	1 (3)	30(100)
3. Would you recommend NGT to other groups?	15(50)	14(47)	1 (3)	30(100)
4. Did experience meet your expectations?	13(43)	16(53)	1 (4)	30(100)
5. Are you interested in NGT training?	20(67)	--	10(33)	30(100)

Only one person out of the two groups responded negatively to the program. An equally favorable response was made by both groups on effectiveness of the Nominal Group Technique as 97 percent of the secondary school and 100 percent of the college participants identified the experience as positive. Again, only one participant expressed a negative response.

As to whether the workshop met with participant expectations, 43 percent of the high school population expressed definite fulfillment and 53 percent were somewhat satisfied, whereas the community college group expressed a similar attitude as 57 percent agreed that the experience definitely met their expectations while 43 percent indicated somewhat satisfied; as before, only one participant found the experience to be unsatisfactory.

TABLE VIII

COLLEGE PARTICIPANTS' RESPONSES TO WORKSHOP

	College			
	Yes	Somewhat	No	Totals
	N (%)	N (%)	N (%)	N (%)
1. Was workshop worthwhile?	15(71)	6(29)	--	21(100)
2. Was NGT effective?	17(81)	4(19)	--	21(100)
3. Would you recommend NGT to other groups?	19(90)	2(10)	--	21(100)
4. Did experience meet your expectations?	12(57)	9(43)	--	21(100)
5. Are you interested in NGT training?	17(81)	--	4(19)	21(100)

Results of the Articulation Opinionnaire. The pre-articulation opinionnaire was enclosed within the letter inviting participants to the workshop with instructions to complete and return on the day of the workshop. A second identical opinionnaire was administered to each participant immediately following the last session of the workshop.

Of the 61 workshop participants, 95 percent or 56 persons returned the opinionnaires. Seventy-three or 82 pre and post opinionnaires were usable while 27 percent or 15 from the total 97 were unusable because only the pre or post was returned as shown in Table IX.

TABLE IX

PARTICIPANT RESPONSE TO PRE AND POST OPINIONNAIRES

Group	Usable Pre&Post	Unusable Pre Only	Unusable Post Only	Total
	No.(%)	No.(%)	No.(%)	No.(%)
Secondary Schools	46(56)	7(78)	2(33)	55(57)
Community College	36(44)	2(22)	4(67)	42(43)
Totals	82(100)	9(100)	6(100)	97(100)

A Likert-type scale value of 1 through 5 was used to indicate the level of agreement or disagreement. The scale utilized in the opinionnaire was:

1 - I agree with the statement.
2 - I tend to agree with the statement.
3 - I cannot say (have no feeling one way or another)
(the evidence is insufficient)
4 - I tend to disagree with the statement.
5 - I disagree with the statement.

The opinionnaire included nine statements which in the opinion of the investigator related favorably to articulation and eleven which related unfavorably.

The nine favorable statements from the opinionnaire were:

1. The community college should award advanced credit for high school vocational education courses based on demonstrated competencies and skills.

3. Community college counselors should visit with high school vocational education counselors at least once a year.

4. High school vocational education graduates should be encouraged to enroll in two-year college career programs as a means of continuing their education.

5. The high school and the community college can share their vocational education faculty and special laboratories.

7. The community college and the high school should strive for continuity between their vocational education programs.

10. The high school vocational education instructor should teach one or two community college courses in his field.

13. High school counselors should plan for their vocational education students to visit the two-year college programs at least once a year.

18. Smooth working relationships are discouraged when two different state agencies are in charge of high school and college vocational education.

19. Community colleges and high schools have some unnecessary duplication which could be avoided through closer cooperation and program planning.

A comparison of the pre and post mean scores of the nine statements favoring articulation indicated that a mean score of 2.10 was recorded on the pretest and a mean of 2.06 on the posttest (See Table X). Both the pre and post scores indicated that the participants tended to agree with the favorable statements.

These results indicated that the respondents to the opinionnaire tended to agree with the favorable statements which were similar to the priority items generated from the

Nominal Group Technique. In both instances, the participants reacted positively toward the concept of awarding college credit for secondary school vocational education course equivalencies, promoting counterpart meetings, sharing of facilities, and developing greater continuity between the two levels.

TABLE X

THE CALCULATION FOR MEAN SCORES OF FAVORABLE STATEMENTS ON ARTICULATION OPINIONNAIRE

Question No.	Pre $\bar{X}$	Post $\bar{X}$	Gain/Loss (+) (-)
1	2.00	1.73	+.27
3	1.51	1.61	-.10
4	2.07	2.20	-.13
5	2.07	2.12	-.05
7	1.44	1.71	-.27
10	2.76	2.63	+.13
13	1.63	1.78	-.15
18	3.00	2.56	+.44
19	2.46	2.22	+.24
	$\bar{X}$ = 2.10	$\bar{X}$ = 2.06	+.04

Eleven statements were developed which reflected unfavorable opinions regarding articulation and coordination between the secondary schools and the community college. These statements were:

2. The vocational education student should go immediately into the world of work and not fool around with college.

6. The vocational education programs in both the high school and the community college must be developed separately.

8. The high school vocational education graduate is not prepared to attend college.

9. Most students who attend community college do so because they are not prepared to attend four-year colleges.

11. The community college has more in common with four-year colleges than with high schools.

12. The high school vocational education graduate is competing for the same job as the two-year college vocational education graduate most of the time.

14. High School College Nights and Career Days are not very successful.

15. The community college is responsible for initiating all communication with the high school.

16. The trend in our society is toward longer formal education, therefore, all vocational education should be concentrated at the postsecondary level.

17. Vocational education is for students who demonstrated an inability to do academic work.

20. The community college is merely an extension of the 13th and 14th years of high school.

An analysis of the unfavorable statements produced a pre and posttest mean score of 3.9 and 3.7 respectively. These mean averages suggested that the participants were not exactly in agreement or disagreement with the statements. The mean values of the unfavorable statements are presented in Table XI.

TABLE XI

THE CALCULATIONS FOR MEAN SCORES OF UNFAVORABLE STATEMENTS ON ARTICULATION OPINIONNAIRE

Question No.	Pre $\bar{X}$	Post $\bar{X}$	Gain/Loss (+) (-)
2	4.29	4.00	-.29
6	3.98	4.10	+.12
8	4.20	4.37	+.17
9	4.32	3.98	-.34
11	3.27	3.42	+.15
12	3.05	2.98	-.07
14	3.27	3.07	-.20
15	3.85	3.59	-.26
16	4.37	4.22	-.24
17	4.66	4.24	-.15
20	3.68	3.17	-.51

The favorable and unfavorable statements were also studied by type of institution to determine whether the mean gain or loss was with the secondary school group or the community college group. Interestingly enough, the secondary school participants had a mean gain of plus .34 on the favorable statements and a mean loss of -.02 on the unfavorable ones. However, the Eastern Campus participants had a mean loss of -.25 on the favorable statements and a mean loss of -.34 on the unfavorable statements. The calculation for the two groups are reported in Table XII and Table XIII.

TABLE XII

CALCULATIONS FOR HIGH SCHOOL AND COLLEGE MEAN SCORES OF FAVORABLE STATEMENTS

Institution	No.	Pre $\bar{X}$	Post $\bar{X}$	Gain/Loss (+) (-)
High School	23	2.23	1.89	+.34
College	18	1.94	2.28	-.25

TABLE XIII

CALCULATIONS FOR HIGH SCHOOL AND COLLEGE MEAN SCORES OF UNFAVORABLE STATEMENTS

Institution	No.	Pre $\bar{X}$	Post $\bar{X}$	Gain/Loss (+) (-)
High School	23	3.84	3.82	-.02
College	18	3.98	3.63	-.34

Progress Report. On March 19, 1976, a follow-up report was sent to all workshop participants to inform them of the results of the workshop and assess their interest in implementing an articulation program. The report included the list of priorities outlined at the beginning of this chapter with a follow-up letter (See Appendix G) requesting a show of interest in serving on a committee. Over three-fourths of the secondary school and community college representatives indicated an interest in serving on an Ad Hoc Committee or Task Group.

Step III. Gaining Acceptance

Administrative Planning Meetings. The final activities involved two meetings: (1) a meeting with administrators who participated in the workshop and (2) a meeting with the administrators who participated in the first meeting plus the Campus President and the superintendents of schools. The first meeting was held on Monday, April 26, 1976, at the Eastern Campus and twelve administrators were able to attend the meeting designed to carry out the objectives for improving articulation as a result of the workshop. The primary objective which emerged from the workshop was to implement an advisory council whose major responsibility would be the organization and supervision of task groups to study the various problem areas hindering the advancement of the articulation program.

However, when the vocational education directors were asked to assign personnel to the task groups they forthrightly expressed support for the objective but indicated that they were powerless to make such commitments. They suggested that either the principals or the superintendents were important to the furtherance of this project and would need to be brought into the acceptance process immediately.

After weighing the pros and cons to determine which strategy would best serve to facilitate the implementation of the program, it was agreed upon by the deans and directors that the superintendents should be requested to give their approval. The Eastern Campus President was suggested as the person to assume responsibility for the leadership role with the superintendents. The President agreed to host a meeting for superintendents, deans, and vocational educational directors to gain acceptance for the articulation plan (See Appendix I for letter from Eastern Campus President).

This second meeting was held on May 25, 1976, and 40 superintendents, deans, and directors were invited to represent the two educational levels (See Appendix H for a complete list of the invitees). Of the total invited, 25 or 63 percent actually attended.

The Campus President opened the meeting by welcoming the group and providing a general overview of the development of the campus and its role with the secondary schools. Following the President to the speakers' platform was one of the vocational education directors who presented the history and progress of the articulation meetings. A brief video tape review of the articulation workshop was presented to the group to provide a greater appreciation and understanding of the involvement of the two institutions.

Prior to the meeting, the priority items from the workshop were combined to formulate two specific objectives which were:

1. To establish a coordinating or advisory council consisting of representatives from the following groups:
    - a. secondary and community college students
    - b. secondary and community college faculty
    - c. secondary and community college administrators
    - d. secondary and community college counselors
    - e. business and community leaders
2. To establish joint curriculum committees or task groups to study ways of improving articulation in the following areas:
    - a. Curriculum and Program Development
    - b. Facility Utilization
    - c. Course continuity
    - d. Occupational Needs Survey for Cuyahoga County
    - e. Follow-up Study of Secondary School Graduates
    - f. Communication and Information Dissemination

These objectives were presented to the superintendents by the program moderator of the meeting for their endorsement. However, it was the general consensus that an advisory council such as the one suggested in the first objective would not be an effective body for achieving the desired outcome; therefore, the superintendents recommended that the council be made up of themselves instead of the broad range originally suggested. The group agreed that such a council would be much more effective and the Eastern Campus President volunteered to assume a leadership role in organizing the council. He further expressed an interest in viewing the future development of articulation on a district or county-wide basis. Some interest in this approach was expressed by other members of the body also. In fact, it was suggested by the superintendents that the results of the meeting should be reported at the next county-wide superintendents' meeting in June.

This endorsement by the superintendents represented the collaborative efforts of the deans and directors in gaining acceptance for the articulation program. However, gaining acceptance took longer than anticipated because there was not a planned strategy to bring about the necessary changes. Most of the events occurred spontaneously and long time lapses usually interrupted the opportunity for continuity. The first actual systematically planned program in this articulation process which had a significant impact upon the two institutions was the diagnostic process introduced in the March workshop. The outcome of the diagnosis eventually led to the executive level meeting.

Step IV. Constraints and Resources

The only constraint which appeared significant to the progress of the articulation process was the availability of secondary and college faculty to participate on the task groups. The inflexibility of the secondary school faculty schedule has already been identified as a prohibiting factor and a simple solution would be to schedule meetings after school. However, there is still no assurance that the faculty will be willing to extend their workday to participate unless the system recognized this extra effort.

The investigator was fortunate to acquire the necessary resources for this study from within the system. The "homing in" process produced a highly successful cadre of resource persons to carry out specific roles. Some examples of utilizing resources within the system were:

1. This investigator served as an "inside" change agent.
2. The Eastern Campus Dean for Curriculum and Instruction assisted in the project development and implementation.
3. The counseling staff served as recorders in the NGT.
4. The Director for Student Activities and Placement lead the NGT.

5. The secondary school vocational education directors acted as resources, selected faculty to participate in the workshop, and participated in numerous activities themselves.

6. The staff of the Office for Community and Student Services handled the many minor details such as arranging meeting rooms and luncheon schedules, typing and mailing letters, confirming appointments, and providing information.

7. The superintendents of the secondary school districts agreed to serve on an advisory council to give direction to the future of the articulation program.

8. The Eastern Campus President was instrumental in making this study possible as an active leader and supporter.

Resources utilized "outside" the system included two books on change strategies entitled, Organizing for Change: New Priorities for Community Colleges and The Change Agent's Guide to Innovation in Education. Another vital resource book was, Group Techniques for Program Planning which contained the description and procedures for conducting the Nominal Group Technique. A resource person from Kent State University, in Kent, Ohio, was called in to consult with the planning team on the Nominal Group Technique.

By and large, the resources for planning and conducting this study were acquired from within the system which resulted in providing two important advantages: (1) personnel from both the secondary schools and the Eastern Campus have been exposed to new levels of articulation and group techniques, and (2) the resources are on board and available with the needed expertise to follow-up whenever the need arises. Unlike the "outside" resource person who leaves the system to work out its problem alone, this approach commits the system to fulfill those objectives it deems valid.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study began with an intensive review of the literature to acquire a greater conceptualization of the problem areas confronting secondary and postsecondary institutions relative to vocational education. The investigation revealed that program development in vocational education between secondary schools and the community colleges had largely been neglected at both educational levels. This neglect was reflected in the lack "of a coordinated synchronized educational experience" which prohibited the student's educational development along a sound continuum (Bender, 1974, p. 23).

The literature search also supported the notion that the community college should play a major role in providing the leadership for bringing this coordination about. Kintzer (1973) and Wattenbarger (1972) commenting on this subject suggested that while the community college must take the lead, it must also recognize a joint relationship for a viable articulation program.

Therefore, the primary purpose for undertaking this study was to produce a model for promoting and guiding the development of a coordinated effort in vocational education between the Eastern Campus of Cuyahoga Community College and its feeder high schools.

The background for building the model evolved from an analysis of such change strategies as: Problem-Solving, Social Interaction, and Research, Development, and Diffusion. The model was further enhanced by studies on innovation and change by Havelock (1973) and Bushnell (1973).

The participants involved in the study consisted of administrators, counselors, and faculty members from the Eastern Campus of Cuyahoga Community College and their counterparts from 16 secondary school districts in the campus service area. To engage the institution in a systematic approach to identification of the problem areas, a workshop was conducted on March 3, 1976, as a result of several years of involvement between the Eastern Campus and the secondary school personnel. The results of the workshop provided the diagnostic means for identifying the problem areas as perceived by the participants.

In designing the study, it was decided that a formative evaluation would best serve to assess the effectiveness of the model for improving articulation. Therefore, in order to evaluate the outcome of the study, these four objectives were formulated: (1) to identify the problem areas in articulation and achieve a consensus on the priority items; (2) to demonstrate the utilization of resources within the system rather than through outside resources; (3) to gain official acceptance of a proposed plan for improving articulation as an outcome of this study; and (4) to demonstrate the leadership role of the community college in the articulation process.

CONCLUSIONS

The first objective was related to how well the workshop participants identified and achieved a consensus regarding priorities for developing closer coordination between the two levels. The workshop members were invited to participate in structured activities utilizing the Nominal Group Technique as a method for identifying the problem areas and arriving at possible solutions. The participants were instructed to respond to the question of how the community college and secondary school could cooperate more effectively in providing vocational educational opportunities for students.

The articulation workshop question generated a total of 95 areas of concern directed specifically to the three categories of articulation which were: (a) the information exchange, (b) communication with counterparts, and (c) the interaction dimension which involved joint curriculum development, joint staffing, and facility usage. These 95 items were reduced to 40 through a vote by the eight workshop subgroups. Each subgroup voted on the five most important items and ranked them in order of their priority.

The results indicated that 13 areas were ranked as high priority items. The establishment of a coordinating council was considered by all 8 groups as a high priority item. Six other areas received at least 50 percent of the voting by the subgroups. These areas included: a need analysis survey, a network for information dissemination, the appointment of a curriculum committee, awarding of college credit for secondary school vocational education courses, and joint facility usage.

The priority items selected by the workshop participants were consistent with the needs identified in the literature by such authors as McDougle (1974), Moore (1973), Bender (1974), and Woelfer (1975). Also, there was a consensus of expression as to a real need by both the subgroups as a whole and the administration regarding the need for a coordinating council which would represent a cross section of the two educational levels.

The respondents to the workshop evaluation were very supportive as to the value of the experience both from the viewpoint of accomplishment and the worth of the Nominal Group Technique as a vehicle for facilitating a meeting of this nature. Ninety-eight percent of the participants indicated that the technique was worthwhile and 71 percent expressed an interest in attending a seminar to learn more about actually conducting the NGT. Ninety-six percent recommended the technique as a method for leading other groups.

The opinionnaire used in this study provided the opportunity to view the attitude of the participants toward articulation. Results of the opinionnaire indicated that the respondents favored the following: (1) awarding advanced credit for high school vocational education courses, (2) conducting counselor counterpart visitations, (3) encouraging high school vocational education students to enroll in two-year college career programs, (4) providing joint usage of faculty and special laboratories, (5) developing continuity between vocational education programs, (6) promoting high school counselor visits to the community college with their vocational education students, and (7) eliminating duplication through closer coordination and program planning. These views were consistent with the concerns expressed as a result of the Nominal Group Technique.

Judging from the positive replies to the articulation workshop and the Nominal Group Technique, it would appear that the objective of identifying the problem areas between personnel from the vocational education programs in the secondary schools and the community college and reaching consensus on the priority items was achieved.

The second objective suggested that the institutions themselves possessed the internal resources to achieve coordination between the two levels. Due to the nature of this study, it was clearly demonstrated that an inside resource team can be an effective force in change strategy. However, this is not to imply that an outside resource person or team would not have been as effective.

An important vehicle in the success of the third objective was acquiring a top level commitment. This was clearly demonstrated from the participation by the executive leaders of the two educational levels when called upon to endorse a plan to institute the objectives presented at the administrative meeting. Not only were the superintendents willing to endorse the concept of coordination but also assumed the leadership to assure that the objectives were carried out. The leadership role taken by the Campus President was a clear indication of commitment by the community college.

It was apparent from the nature of the study that the Eastern Campus assumed the leadership role from the beginning. However, it would appear that the joint relationship referred to earlier was about to emerge following the entry of the superintendents into the process.

This was a most encouraging and desirable outcome.

The results of this study would support the fact that the project has been successful; nevertheless, one echelon of the administrative management level was overlooked throughout the entire process. The secondary school principals were not included in the articulation meetings during the discussions on vocational education and, in retrospect, it was simply an error of judgment on the part of the investigator for their exclusion.

In conclusion, the model for improving articulation between the community college and the secondary school vocational education programs largely emerged in six basic steps. The steps were:

Step I. Building a Relationship
Step II. Diagnosis
Step III. Gaining Acceptance
Step IV. Constraints and Resources
Step V. Evaluation
Step VI. Diffusion

It was clearly demonstrated from the results of the study that this was a workable model and did achieve the expected outcomes. However, it was also pointed out in the study that a change strategy must be consistent with the experience and background of the change agent. Therefore, this investigator would like to give a word of advice in the utilization of the Nominal Group Technique as a diagnostic tool. This technique was a highly structured approach to group process and the user should become thoroughly familar with the steps involved and possess a working knowledge of group processing before conducting the NGT.

However, this model should prove most valuable as a guide for those institutions where gaining support for improving articulation is a goal.

RECOMMENDATIONS

The recommendations presented here were based on the findings and conclusions of this study. Therefore, it seems to follow that the recommendations expressed below were consistent with the theme of this study.

Identifying Role of District Office. Leadership for continuing the articulation process should shift from the Eastern Campus to the College District Office of the Vice Chancellor for Educational Development and become a county-wide project as suggested by the Campus President in the meeting with the superintendents.

Acquiring County-Wide Involvement. A county-wide effort of coordinating the planning by all private and public institutions providing vocational education should be undertaken consistent with the short and long range manpower needs of the community. Cuyahoga Community College should play a major leadership role in developing and implementing such a plan as was indicated and this also should be initiated from the Office of the Vice Chancellor.

Inclusive Administrative Leadership. The secondary school vocational education directors revealed that another administrative level of authority should be included in the decision-making process. Fortunately, for this project, the superintendents were willing to assume leadership in improving the articulation program. However, for purposes of future studies with other school districts, this investigator recommends that the secondary school principals be brought into the process for their input and support.

Promoting Joint Sponsorship. From the results of the meeting with the superintendents it was also evident that the planning process must be jointly sponsored. Therefore, it is recommended that key decision-makers from both institutions must become involved early in the process. This will require the support of the chairman of the County Superintendents' Association as well as personnel from the College.

Developing a Systematic Plan of Operation. The Vice

Chancellor for Educational Planning and Development should take immediate steps to promote a systematic plan for carrying out the several areas of concern expressed below:

a. Organization of an Advisory Council to provide leadership to the community regarding the future direction for planning vocational education programs.

b. Establishment of committees to carry out the following assignments:

    (1) Conduct a need analysis survey of the vocational education programs offered by the secondary schools and the community college and produce a directory for all programs for use by counselors and students.

    (2) Appoint a committee of faculty and counselor counterparts from the two educational levels to develop a plan for improving the dissemination of information between the levels.

    (3) Designate a committee of faculty, counselors, and administrative counterparts to design evaluative measures for awarding equivalent credit and advanced standing for vocational education courses taken in the high school.

    (4) Conduct a survey to determine the areas of duplication and strive to develop a plan for the joint usage of physical facilities such as laboratories, special equipment, and personnel.

Diffusion of Articulation Study. It is further suggested that copies of this study should be made available to the District Library Services as a reference to key personnel responsible for carrying out these recommendations. A copy should also be transmitted to the Ohio Board of Regents for possible involvement on a state-wide basis.

The purposes of this study were clearly achieved; however, the major task of implementation lies ahead and if these recommendations are to be fully realized, a strong commitment from the executive leaders of all the institutions involved must be forthcoming before the lower echelons will be willing to put such a plan into operation. Such a commitment includes recognition of the problem and the assignment of resources and personnel to task groups and committees to carry out the recommendations cited above. This requires a mandate from the boards of education with concise policy statements regarding the roles and responsibilities of each institution involved.

FOLLOW-UP EVALUATION

A formative evaluation was conducted as the fifth step in the articulation model; nevertheless, in order to assess the effectiveness of the model as a method for improving articulation, it will be necessary to conduct a summative evaluation. The summative evaluation "should be sufficiently sophisticated to allow the evaluator to point to the features that seemed to influence success or failure"

(Anderson and Others, 1975). Therefore, it is recommended that the Office of Institutional Research and Development of Cuyahoga Community College assume the lead in designing a survey instrument and conducting a follow-up at the conclusion of the 1976-77 academic year.

Since a survey often entails several months for planning and implementing such a study, it is important that the process begin well in advance of the actual dates for conducting the study. Thus, planning should begin during the Fall Quarter to determine the most effective means for validating the instrument and conducting the survey.

This investigator will supply the Office of Institutional Research and Development with a copy of the study and a list of all former and current participants. The investigator will also be available to assist in the follow-up study.

The results of the evaluation will be prepared for dissemination to all institutions participating in the study and other interested parties.

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APPENDIXES

APPENDIX A

Letter from Dr. Max J. Lerner, Vice Chancellor
Ohio Board of Regents

OHIO BOARD of REGENTS
30 East Broad Street, 36th Floor
Columbus, Ohio 43215
(614) 466-6000
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January 13, 1976

Mrs. Ilene Savin, Asst. to Dean of
Student Services, Eastern Campus
Cuyahoga Community College
25444 Harvard Road
Warrensville Township, Ohio 44122

Dear Mrs. Savin:

I enjoyed our conversation last week regarding closer articulation between Cuyahoga Community College and the vocational schools in the greater Cleveland area.

I cannot recall any particular items we have written regarding better articulation between vocational high schools and the two-year campuses. Enclosed is a copy of The Two-Year College System in Ohio: A Planning Report. On page 22 there is a brief paragraph calling for better articulation.

For several months, I have been promoting through various meetings, a closer cooperative effort in program planning and in recruiting students between Ohio's two-year campuses and the joint vocational schools.

Some of our colleges could be of greater service to the students, if they would accept some vocational high school graduates for advanced placement in associate degree programs. For example: A student completing a vocational program in secretarial science, who has already achieved good secretarial skills, should be permitted to enroll in a college with advanced standing, thus his/her degree could be shortened from the normal two-year period.

The standard reply I receive from most of our campuses, is that this is possible to achieve, by the student testing out of certain courses. I am certain this is the case; however, I have serious doubts whether very many students take advantage of this opportunity. It could help the recruitment for two-year campuses, if they would utilize the procedure I have just outlined.

There appears to exist a philosophical problem as to whether a two-year degree is awarded because a student spends two years on a campus, or whether he achieves certain information and/or skills. If degree programs had certain behavorial objectives, students would attain these objectives in various periods of time. This should be taken into consideration while planning an individual student's program; some may need longer than two years, other less than that.

Sincerely,

Max J Lerner

Max J. Lerner
Vice-Chancellor
Two-Year Campuses

MJL:r
Enclosure

APPENDIX B

The Nominal Group Technique

THE NOMINAL GROUP TECHNIQUE

The nominal group technique, developed in 1968 by Andre L. Delbecq and Andrew H. Van de Ven, has since gained recognition as a highly effective group decision-making process by social science, health, education, industry, and public administration organizations (Delbecq and Van de Ven, 1974). The NGT utilized proactive search behavior as opposed to reactive and "facilitates problem-mindedness by extending the period of problem-centered focus by requiring individuals to record their thoughts" (Delbecq, Van de Ven, and Gustafson, 1975, p. 23).

Delbecq and Van de Ven (1971, 1974, 1975) conducted a number of studies to determine the differences in effectivenss of the nominal group technique as compared to the delphi and other interacting group processes. They chose to measure the quality of ideas generated and the perceived level of satisfaction as reported by the participants. These studies produced a description of the qualitative differences between the nominal group technique, delphi, and interacting processes as summarized by Van de Ven (1974).

Green's (1975) study contradicted the findings of Delbecq and Van de Ven who contend that the NGT is superior to other group processes. Green found no significant differences between NGT when compared with other interacting group techniques in uniqueness or quality of the responses in his empirical analysis study. However, Delbecq's and Van de Ven's views were supported by Huseman, Lahiff, and Wells (1974) who found that the nominal group approach was superior because "interacting groups inhibit the effectiveness of their members generating the dimensions of the problem being discussed...strong members of the group may dominate and keep other less powerful individuals from suggesting important dimensions of the problem" (p. 129).

The nominal group method was designed to provide opportunity for participation by both management and employees. Green and Pietri (1974) reported that the process can be utilized as a tool to accomplish upward communications between subordinates and management as well as multi-directional communication.

The NGT was described by Huseman, cited in Green and Pietri (1974), as overcoming the following inhibiting forces:

> (1) with no criticism allowed, participants are willing to share ideas that are not yet well developed; (2) since there is no discussion, the nominal groups do not fall in a rut by focusing on one particular train of thought; (3) contributions are not evaluated, the nominal group can

> concentrate all of its time and energy on the specially assigned task; (4)...nominal grouping prevents dominance of strong personalities (formal or informal group leaders) since they have no persuasion opportunity; (5) the expression of minority opinions and ideas is encouraged since criticism is not allowed; and (6) incompatible, conflicting ideas are more likely to be expressed because feelings of inferiority or defensiveness among group members are minimized (p. 40).

The developers of NGT contend that it is particularly effective "where a variety of groups, fragmented in terms of invested interests, rhetorical and ideological concepts, and differentiated expertise needed to be brought together in order for a program to emerge or change to take place" (Delbecq and Van de Ven, 1971, pp. 467-468).

The technique is described as having the potential for identifying problems, pinpointing possible solutions, and setting priorities.

Also, research conducted by Delbecq, Van de Ven, and others (1975) indicated that a group of less than five members lacked the resources to contribute critical judgments necessary to arrive at a decision because of overexposure, increased personalization, and too few members to act out group roles. They also suggested that increasing the number beyond ten has not shown an increase in group accuracy and a group larger than ten becomes burdensome and the mechanics of NGT suffers.

Finally, the NGT was determined more practical from the standpoint of use of resources in matters of administrative cost and time as compared with the other methods.

APPENDIX C

Workshop Invitation Letter

Cuyahoga Community College
EASTERN CAMPUS 25444 HARVARD ROAD
WARRENSVILLE TWP., OHIO 44122 (216) 464-1450

February 25, 1976

John Doe
Title/Department
School
Address
City

Dear Mr. Doe:

We were happy to learn that you are joining us on March 3, 1976, as a workshop participant for improving articulation between our institutions with emphasis on vocational education.

We plan to hold the workshop at the Somerset Inn on Northfield Road. The program is scheduled to begin with lunch at 11:30 a.m. followed by an intensive workshop session from 12:30 p.m. to 2:00 p.m. We anticipate 60 participants representing both the high school and the Eastern Campus. The participants will work in small groups using the Nominal Group Technique.

Enclosed you will find a copy of an opinionnaire which is intended to reflect various thoughts on vocational education. The statements are not based on fact but relate to general opinion only. Please complete the questionnaire and bring it to the workshop with you. It is very important that we receive a completed questionnaire from each participant. All information will be kept confidential.

A second opinionnaire will be sent to each participant following the workshop. Results of the questionnaire will be sent to all participants.

The workshop should provide an excellent opportunity to develop a much needed and desirable articulation program between our institutions.

Sincerely,

William R. Williams
Dean, Curriculum Development and Instruction

Eugene W. Malone
Dean, Community and
Student Services

EWM:a
Enclosure

APPENDIX D

Conducting the Nominal Group Process

CONDUCTING THE NOMINAL GROUP PROCESS

STEP 1. SILENT GENERATION OF IDEAS IN WRITING

Process:

- Present the nominal question to the group in writing
- Verbally read the question
- Illustrate level of abstraction and scope desired with example which does not distort (lead) group responses
- Avoid other requests for clarification
- Charge the group to write ideas in brief phrases or statements
- Ask group members to work silently and independently
- Model good group behavior
- Sanction disruption of the silent, independent activity by comments addressed to group as a whole

Benefits:

- Provides adequate time for thinking
- Facilitates hard work by the model of other group members reflecting and writing
- Avoids interrupting each other's thinking
- Avoids premature focusing on single ideas
- Eliminates dominance by high-status or agressive members in idea generation
- Keeps the group problem-centered

STEP 2. ROUND-ROBIN RECORDING OF IDEAS ON A FLIP PAD

Process:

- Provide clear instructions concerning the step:
  - Indicate objective of the step is to map the group's thinking
  - Explain need to present ideas in brief words or phrases
  - Explain process of taking one idea serially from each member
  - Explain group members must decide if items are duplicates

- Explain that an individual must "pass" when he has no further items, but may "reenter" later
- Express the desirability of hitchhiking and adding new ideas even if they are not on individual nominal worksheets
- Explain inappropriateness of discussion prior to completion of listing

Quick, effective mechanical recording:

- Record ideas as rapidly as possible
- Record ideas in the words used by group members
- Provide assistance in abbreviating only in special situations
- Make the entire list visible by tearing off completed sheets and taping them on an area visible to all group members
- Sanction group as a whole if individuals engage in side conversations or attempt to discuss items prior to completing the listing

Benefits:

- Equalizes opportunity to present ideas
- Assists in separating ideas from personalities
- Provides a written record and guide:
    - Increases group's ability to deal with a larger number of ideas
    - Avoids loss of ideas
    - Confronts the group with an array of clues
    - Encourages hitchhiking
- Places conflicting ideas comfortably in front of group
- Forces the group to fully explore the problem

STEP 3. SERIAL DISCUSSION FOR CLARIFICATION

Process:

- Verbally define the purpose of the step:
    - To clarify the meaning of items
    - To explain reasons for agreement or disagreement
- Indicate that final judgments will be express by voting so arguments are unnecessary
- Pace the group so that all ideas receive sufficient time for clarification
- Avoid forcing the member who originally lists the idea to be solely responsible for clarifying the item

Benefits:

Avoids having discussion focus unduly on any particular idea or subset of ideas
Helps eliminate misunderstanding
Provides opportunity to express the logic behind items
Allows members to disagree without argumentation

STEP 4. PRELIMINARY VOTE ON ITEM IMPORTANCE

Process:

Ask the group to select from the entire list a specific number (7+2) of priority (important) items:
    Place each priority item on a separate 3x5 card or rating form
    Rank-order or rate the selected priority items
Collect the cards or rating forms and shuffle them to retain anonymity
Tally the vote and record the results on the flip chart in front of the group

Benefits:

Obtaining independent judgments in writing helps eliminate social pressures
Expressing judgments mathematically by rank-ordering or rating increases accuracy of judgments
Displaying the array of individual votes clearly highlights areas needing further clarification or discussion

STEP 5. DISCUSSION OF THE PRELIMINARY VOTE

Process:

Define the role of the step as clarification, not pressure toward artificial consensus
Keep the discussion brief
Caution group members to think carefully about any changes they make in their voting

Benefits:

Provides group members a final opportunity to clarify their positions
Ensures that "spread" votes really reflect differences in judgments, not unequal information or misunderstanding

STEP 6. FINAL VOTE

Process:

(Repeat Step 4.)

Benefits:

Accurate aggregation of group judgments and error reduction
Closure to the meeting

APPENDIX E

Workshop Evaluation Form

TO:

Before completing the second opinionnaire, please take a few minutes to evaluate the Workshop experience by answering the following questions:

Workshop Evaluation

1. Was this type of workshop experience worthwhile in your opinion?

   Definitely ☐ Somewhat ☐ Definitely Not ☐

2. Was the technique used to guide the dicussions effective?

   Definitely ☐ Somewhat ☐ Definitely Not ☐

3. Would you recommend the Nominal Group Technique as a method for leading other articulation groups?

   Definitely ☐ Somewhat ☐ Definitely Not ☐

4. Did this experience meet with your expectations?

   Definitely ☐ Somewhat ☐ Definitely Not ☐

5. Would you be interested in attending a training seminar at Eastern on the Nominal Group Technique?

   ☐ Yes ☐ Not Interested

APPENDIX F

Articulation Opinionnaire

ARTICULATION OPINIONNAIRE

TO:

The statements listed below are presented as generalizations and represent a set of opinions and not facts. As such, they are neither right nor wrong, and your agreement or disagreement should be determined by your own experiences. Therefore, please circle the number which best represents what you actually believe rather than what you think you should believe. All participants will remain completely anonymous.

SCALE:

1. I agree with the statement.
2. I tend to agree with the statement.
3. I cannot say (have no feeling one way or another) the evidence is insufficient)
4. I tend to disagree with the statement.
5. I disagree with the statement.

---

1. The community college should award advanced credit for high school vocational education courses based on demonstrated competencies and skills. 1 2 3 4 5

2. The vocational education student should go immediately into the world of work and not fool around with college. 1 2 3 4 5

3. Community college counselors should visit with high school vocational education counselors at least once a year. 1 2 3 4 5

4. High school vocational education graduates should be encouraged to enroll in two year college career programs as a means of continuing their education. 1 2 3 4 5

5. The high school and the community college can share their vocational education faculty and special laboratories. 1 2 3 4 5

6. The vocational education programs in both the high school and the community college must be developed separately. 1 2 3 4 5

7. The community college and the high school should strive for continuity between their vocational education programs. 1 2 3 4 5

8. The high school vocational education graduate is not prepared to attend college. 1 2 3 4 5

9. Most students who attend community colleges do so because they are not prepared to attend four-year colleges. 1 2 3 4 5

10. The high school vocational educational instructor should teach one or two community college courses in his field. 1 2 3 4 5

11. The community college has more in common with four-year colleges than with high schools. 1 2 3 4 5

12. The high school vocational education graduate is competing for the same job as the two-year college vocational education graduate most of the time. 1 2 3 4 5

13. High school counselors should plan for their vocational education students to visit the two-year college programs at least once a year. 1 2 3 4 5

14. High school College Nights and Career Days are not very successful. 1 2 3 4 5

15. The community college is responsible for initiating all communications with the high school. 1 2 3 4 5

16. The trend in our society is toward longer formal education, therefore, all vocational education should be concentrated at the postsecondary level. 1 2 3 4 5

17. Vocational education is for students who demonstrate an inability to do academic work. 1 2 3 4 5

18. Smooth working relationships are discouraged when two different state agencies are in charge of high school and college vocational education. 1 2 3 4 5

19. Community colleges and high schools have some unnecessary duplication which could be avoided through closer cooperation and program planning. 1 2 3 4 5

20. The community college is merely an extension of the 13th and 14th years of high school. 1 2 3 4 5

APPENDIX G

Progress Report Letter

Cuyahoga Community College
[illegible]
[illegible]

March 19, 1976

Mr. John Doe
Title/Department
School
Address
City

Dear Mr. Doe:

We think everyone will agree that our workshop on March 3rd was very productive and hopefully the beginning of a closer relationship between our institutions. Enclosed is a composite listing of the five major areas selected by each group at the workshop. We would like to continue to build upon these discussions by asking each participant to consider the possibility of becoming a member of an Ad Hoc Committee or Task Group to work toward implementation.

A representative from the Eastern Campus will be in contact with you within a week to determine your interest in participating. Once an assessment has been made to determine the degree of interest, the committees will be formed. If you are interested in participating with such a group, please check the appropriate place on the enclosed form.

Thirty-five workshop participants indicated an interest in learning more about the Nominal Group Technique and we have set some tentative dates for conducting a seminar on this technique. If you are interested, please select the date most convenient.

Sincerely,

William R. Williams
Dean, Curriculum Development and Instruction

Eugene V. Malone
Dean, Community and Student Services

[illegible]
Enclosure

ARTICULATION WORKSHOP

March 3, 1976

Somerset Inn

Tabulation of Items

Each of the five most important items selected by each of the eight groups is listed below. These items were reviewed to assess similarities and categorized in rank order of importance as reflected in the list. Each item has been rephrased to include all of the ideas presented.

Item No. 1

General Category: Increased communication via a coordinating council or committee.

One of the five items from each of the eight groups concerned the topic of communication and/or the method by which communication could be improved. These items included the suggestion of the establishment of a coordinating council or committee which would include representatives from the following areas:

a) students
b) high school and college faculties
c) high school and college administrators
d) high school and college counselors
e) business and community leaders

Item No. 2

General Category: Curriculum

Six groups listed the topic of curriculum as a high priority item. It was suggested that a joint curriculum committee be established to:

a) assess the needs of both the high schools and the colleges to determine a means for meeting those needs
b) have the faculties discuss course content and job level preparation

c) cooperative develop curriculum between the high schools and the college

Item No. 3

General Category: Needs Analysis

Four groups listed this item among the five top five choices. These items relate specifically to the coordination of an occupational need analysis in this geographic area to be used as input data for the development and implementation of vocational education programs.

Item No. 4

General Category: College credit based on skill competencies

Four groups elected and submitted items pertaining to this topic. It was recommended that a process be established to determine levels of competency in the various vocational education skill areas and that college credit be granted in all appropriate areas. The principle objective for this program is to avoid the duplication of learning experiences.

Item No. 5

General Category: Information Dissemination

Four of eight gorups listed this point as a priority item. It was suggested that an organized program for the dissemination of information be established to inform high school vocational education students of the programs available to them at the college. These items also included the suggestion for scheduled visits by college counselors to the high schools to disseminate the information and counsel with interested students.

Item No. 6

General Category: Physical Facilities

Four of eight groups listed this factor as a significant item. It was suggested that a survey of the physical facilities of the high schools and the college be evaluated and considered in the planning and conducting of vocational education programs so that the duplication of plant and facilities can be avoided when and where possible.

Item No. 7

General Category: Articulation

Three groups considered this point as important. It was suggested that a process for improved articulation between high school and college personnel be established which might:

a) improve information dissemination
b) allow for counseling
c) establish a working relationship between the high school counselor and the college counselor

Item No. 8

General Category: Public Relations

Two groups included an item on public relations among the top five. It was recommended that the institution embark on a public relations program to educate the public as to the importance of public relations.

The remaining five items were considered important by only one group as significant in the five priority items submitted.

a) High school and college institutions should politic the state to accept the progressive ideas of vocational education programs from the high school level to the college level through articulation between the three state level divisions--public secondary schools, community colleges, and college.
b) High school and college students should be exposed to a knowledge of the "work ethic".
c) The community college should emphasize vocational skills in the curriculum and make optional the unrelated college level courses.
d) The institutions should survey and identify all secondary and postsecondary vocational education programs.
e) A follow-up study should be generated to determine the number of vocational education students who continue their education beyond high school and where they attend.
f) Students should be adequately evaluated in the areas of writing and math skills.

NOMINAL GROUP TECHNIQUE SEMINAR

We are planning to schedule the Nominal Group Technique Seminar in April. In order to obtain the day most people will be available to participate, please check the days listed below which are most convenient according to first, second, and third choice and return to Eugene W. Malone, Dean of Community and Student Services.

Monday	____	Morning	____	Afternoon	____
Tuesday	____	Morning	____	Afternoon	____
Wednesday	____	Morning	____	Afternoon	____
Thursday	____	Morning	____	Afternoon	____
Friday	____	Morning	____	Afternoon	____

NAME______________________________

AFFILIATION_______________________

APPENDIX H

Vocational Education Advisory Council

Vocational Education Advisory Council

Secondary School Personnel

School	Superintendents	Directors
Beachwood	Mr. R. Holloway	Mr. J. Fear
Bedford	Dr. R. F. Wiering	Mr. E. Petriella
Cleveland	Dr. P. Briggs	Dr. D. Hazlee
Cleveland Hts. & University Hts.	Dr. B. Settle	Mr. R. Bracale
Cuyahoga Valley	Mr. E. Reed	Mr. L. Bechtel
East Cleveland	Mr. L. Wizell	Mr. R. Ellinwood
Euclid	Dr. E. Husarik	Mr. R. Yocum
Garfield	Mr. J. Harper	Mr. E. Kolaritsch
Maple Hts.	Dr. M. Morris	Mr. R. Stevens
Mayfield	Mr. R. Stubbins	Mr. J. Fear
Orange	Mr. J. Stafford	Mr. J. Fear
Richmond	Mr. M. Williams	Mr. J. Fear
Shaker	Dr. J. Lawson	Mr. R. Goodman
Solon	Mr. F. Mulvaney	Mr. J. Matthews
South Euclid & Lyndhurst	Dr. T. Rogers	Mr. P. Rosso
Warrensville	Mr. E. Hettinger	Mr. L. Murray

Eastern Campus Personnel

Position	Name
Campus President	Dr. R. Shepack
Dean	Dr. D. Mitchell
Dean	Dr. W. Williams
Dean	Mr. E. Malone
Assistant Dean	Dr. L. Rosen
Assistant Dean	Dr. L. Kraft
Assistant Dean	Dr. E. Rorie
Director	Mrs. A. Hawthorne
Director	Mr. J. Rose
Director	Mr. T. Morris
Director	Mr. J. Richey

APPENDIX I

Invitation Letter from Eastern Campus President

Cuyahoga Community College
EASTERN CAMPUS [illegible]
[illegible]

May 14, 1976

Mr. John Doe
Superintendent
Board of Education
Address
City

Dear Mr. Doe:

For the past two years, Cuyahoga Community College, Eastern Campus personnel have been meeting with members of the vocational education programs in the secondary schools of the sixteen school districts in the Eastern Campus service area of Cuyahoga County. Subsequently, on March 3, 1976, approximately 60 representatives from these high schools and the Eastern Campus participated in a workshop to design a plan for a future coordinated effort in vocational training.

The purpose of this letter is to invite you and other superintendents and vocational education directors from the sixteen school districts to a meeting to review the results of those earlier efforts for some meaningful implementation. The luncheon meeting will be held on May 25, 1976, at the Somerset Inn at 11:30 a.m. and it is expected to conclude at approximately 1:30 p.m.

The priority items produced at the March 3rd workshop to implement the goal to develop greater coordination of effort, included: 1) establishing a coordinating council with full representation of secondary schools and Eastern Campus; 2) establishing task groups to study curriculum development, vocational education needs assessment on a countywide basis, sharing facilities personnel and improving information dissemination; and 3) providing improved continuity of career related course content to recognize college level accomplishments in the high school. The complete list of priorities is attached.

Subsequent to that workshop, administrators, including vocational education directors and deans and directors from Eastern Campus, met and it was the consensus of the group that executive support is essential to the success of these efforts and consequently, this invitation to participate is being extended to all of the superintendents, vocational directors of the secondary schools, and the administrative staff of the Eastern Campus.

As a key official of your school district, we look forward to your attendance and support. A member of my office will call next week to determine whether you will be able to join us.

Sincerely,

Robert E. Shepack
President
Eastern Campus

RES:e
Att.

AGENDA

May [illegible], 1978

Somerset Inn

Coffee

Welcome....................................Dr. Robert E. Shepack,
President
Eastern Campus

Lunch
Roast Beef
Baked Potatoes
Tossed Salad
Tray of Sweets

Moderator....................................Dr. Eugene W. [illegible],
Dean
Eastern Campus

Keynote....................................Mr. [illegible],
Director, Vocational
Education
[illegible] Board of
Education

Video Tape of Articulation Workshop

Presentation of Objectives

Questions

Adjournment....................................Dr. Robert E. Shepack

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OBJECTIVES

1. To establish a coordinating or advisory council consisting of representatives from the following groups:

   a. secondary and community college students
   b. secondary and community college faculty
   c. secondary and community college administrators
   d. secondary and community college counselors
   e. secondary board members and community college trustees
   f. business and community leaders

2. To establish joint committees or task groups to study ways of improving articulation in the following areas:

   a. Curriculum and Program Development
   b. Facility utilization
   c. Course Continuity
   d. Occupational Needs Survey for Cuyahoga County
   e. Follow-up Study of Secondary School Graduates
   f. Communication and Information Dissemination

VITA

VITA

Eugene William Nelson was born on August 8, 1930 in Washington, Pennsylvania as the youngest of three sons to Dave and Mattie Nelson. He attended elementary and secondary school in Washington and enlisted in the United States Air Force following graduation in 1948.

He graduated from Central State University with degrees in Sociology and Education in 1956. His career started in Canton, Ohio as a junior high school teacher and basketball coach. The following year he transferred to Cleveland, Ohio where he served as a teacher and counselor in the public school system for eight years. In the meantime, he received his master's degree from Kent State University with a major in Counseling in 1962. Then, in 1967, he left Cleveland to accept his first position in higher education as Dean of Men at Central State University.

Since that time, he has served as Director of Student Development at Cleveland State University and Director for Counseling, Admissions, and Records on the Eastern Campus of Cuyahoga Community College. He is presently serving as Dean for Community and Student Services at the Eastern Campus.

Eugene is married and has one daughter eight years old. His wife has devoted her career to teaching deaf children and is employed at the Alexander Graham Bell School for Handicapped Children in Cleveland, Ohio.

END

UNIVERSITY OF CALIF.
LOS ANGELES

[illegible]

CLEARINGHOUSE FOR
JUNIOR COLLEGES